The Culture of the Golden Horde Cities

G. A. Fyodorov-Davydov

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122 Banbury Road, Oxford OX2 7BP, England

GENERAL EDITORS

A.R. Hands, B.Sc., M.A., D.Phil.
D.R. Walker, M.A.

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FOREWORD

Man creates around himself a particular world of his own, which is filled with material things. These reflect him as a social being; he puts into them a part of himself. He endows them with character in a special direction, and in doing so gives material expression, as it were, to his society. When one describes this milieu, that in which a man has spent his life in one country or another and over a given time span, does one not come to understand him better? When we recreate an ancient way of living, does this not bring us people of the XXth century closer to those remote times that have faded into the past, and to the psychology, the outlook, and the behavioral standards of ancient peoples, regarding which we have often known nothing? Shall it not be one of the components of inquiry into social relationships that we should come to understand the customary every-day surroundings of the activities of earlier generations: what were their ideas of values in life, what was regarded as wealth, how deep did poverty and subjection reach? How they worked, what they undertook in their leisure time, how they lived and sustained themselves, how they decorated their homes, how they were clothed - these things are of course not all we strive to learn about peoples of the past. Policy, governmental events, wars, the class struggle - these too are weighty and extremely important targets of historical inquiry. But they can be grasped and absorbed by the historian only when he has come to understand in detail and to sense as familiar and open to his scrutiny those surroundings of life at another time that have been preserved primarily among the records of archeology.

The Golden Horde has had bad luck in that regard. Contemporaries and the historians have always written about political events, about wars, Mongol khans, the plunder these khans exacted as tribute in the lands they conquered, the struggle of the subjected peoples against that rule; and they have sought to evaluate the part that struggle played in the historical process. But the social order of that community, and above all the life and culture of the Golden Horde cities, have remained in shadow, lighted up amost not at all by the literary historical sources. Until the 1950's Golden Horde archeology was in an embryonic stage. Intensive excavations from 1960 to 1970, above all at the capitals of the state on the lower Volga, have laid the foundations of Golden Horde archeology and have made it possible to reconstruct that culture, which we understand specifically as being the material milieu amid which the community was settled, the circumstances and form of life and work, of productivity and the level of technique, the surroundings and culture of every-day life; yet with these things taken not in isolation, but as seen from the viewpoint of social relationships and the political evolution of the society.

The Golden Horde constituted a symbiosis of two worlds - a town culture and the native steppe element of nomads, with their special culture and special system of social organization. The subject matter

of this book is the first of these worlds - the world of the Golden Horde cities.

The basis of the book consists of materials provided mainly by the work of the Volga Archeological Expedition from 1959 through 1980 at the Golden Horde cities of the lower Volga - Tsarevo, Vodyanskoye, and Selitryonnoye. The author was in charge of this work. His immediate assistants, without whom he could not have accomplished even a small fraction of it all, were these two men: Vadim Leonidovich Yegorov, of the scientific staff of the Institute of History within the Academy of Sciences of the USSR, who was charged with principal concern for the organization of large-scale excavations and who was chief of the group that worked first at the Vodyanskoye and later at the Selitryonnoye townsite; and Nikolai Mikhailovich Bulatov, of the scientific staff of the Institute of Culture under the Russian SFSR's Ministry of Culture, who conducted the excavations at the Selitryonnoye townsite for many years.

The author will always recall with pleasure and gratitude the expedition work that was performed by T.V. Guseva, N.M. Noskova, M.D. Poluboyarinova, N.N. Busyatskaya, L.L. Savchenkova, A.G. Mukhamadiev, and L.T. Yablonski.

CHAPTER 1

THE GOLDEN HORDE AND ITS CITIES

The Mongol Conquest and the Formation of the Golden Horde

At the very beginning of the XIIIth century hordes of nomads once more flung themselves upon the settled, civilized countries, passing through like a tornado and sweeping away everything in their path. This event of universally historic importance set its stamp upon the history of the Old World.

The movement came into being in Central Asia, on the steppes of Mongolia. Numerous tribes of pastoral nomads had been living there since time immemorial. Inequalities of holdings gradually came into being among them; an elite put itself forward, constantly subjugating the rank and file of the pastoral community to an even greater extent. At the end of the XIIth century social conditions within the Mongol community became so acute that grave historical occurrences ensued. Among the quarrelling tribes and aristocratic lineages the most outstanding was the family of Temujin, the future Chinghiz Khan who became the ruler of all the Mongol tribes and the conqueror of enormous territories - the creator of an extensive world empire. The exaltation of the family of Temujin, who assumed the title of Chinghiz Khan, and the uniting, for purposes of conquest, of all the Mongol tribes under the sway of his house signified the founding of a new class system which could not but be a feudal one. The redistribution of grazing lands among the new aristocracy, although outwardly it bore the character of an ordering of the tribes, actually constituted a break with the old patriarchal structure of tribal organization and signified the laying down of new feudal linkages among the nomad Mongols.

Chinghiz Khan's proto-feudal state with its harsh military organization was built up on the ulus principle for assignment of grazing lands and nomadic allotments. In this connection the ulus proved to be something in the nature of a nomad allocation set apart on condition of military service to the representatives of the Chinghiz Khan dynasty and to its familiars, the nökörs, noyans, and oglans. This state ensured that further widespread conquests should be possible. Social conflicts and tension within Mongolia, shortage of grazing land and of cattle, aimed these conquests in the direction of wealthy neighboring countries.

At once after the election of Temujin - Chinghiz Khan - at the kurultai (the council of representations of the aristocracy of the Mongol tribes) to be ruler of all the Mongol peoples, he proclaimed a policy of military expansion on a broad front. The Mongol aristocracy went forth to war and took with it its ulusut to seek land, cattle, and slaves. The progressive actions of Chinghiz Khan in uniting Mongolia became metamorphosed into reactionary rapacious wars that brought ruin

and hamstrung evolution not only in the countries subjugated but also in Mongolia itself, preserving there survivals of the patriarchal old times and exhausting the material and human resources of the country.

Before Chinghiz Khan the Mongols had been living out a phase of democracy with well developed property and social differentiation. Under Chinghiz Khan a proto-feudal empire assumed form in their midst. After the conquest and incorporation into the Chinghizid empire of the new settled and nomadic territories, the Mongol aristocracy created feudal states with varying degrees of commingling of properly Mongol nomadic social institutions with community institutions borrowed from the subjugated peoples.

In some countries conquered by the Chinghizids the Mongols came to be called Tatars, the name of one of the most powerful tribes comprised within the Chinghizid union (see Yegorov, 1980-1, p. 177-178 for more detail). In 1211 their victorious campaign against China commenced. That state with its ancient cities, its centers of industry, science, and art, they laid waste. Thousands of slaves were driven into Mongolia, and there they formed industrial slave communities serving the Mongol army and aristocracy. In the steppe area of Mongolia and the adjoining territories such had been known hitherto, but at this time new cities of the Chinghizids were built by exploiting human resources, slave craftsmen, and enormous plundered material treasure. Remains of these cities are known in Tuva, Transbaikalia, and Mongolia: the Mezhegeiskoye, Elegestskoye, Khir-Khan, Don-Terek, and Ertine-Bulakskoye townsites (Kyzlasov, 1965). The most considerable one was the city of Karakorum in Mongolia - the capital of the Chinghizids until the great khan Kubilai transferred this distinction to Peking (Drevnemongolskiye Goroda, 1965). Cities like Karakorum were the basis that underlay the successes of the Mongol kaghans. It was here that weapons were forged, and hither that the tribute of conquered provinces flowed and that merchants brought their wares.

The warriors of Chinghiz Khan were no barbarian nomads. Part of the Mongols had long been a settled people. The Mongols had skills and traditions in building cities and setting up industries. They had in their rear a strong urban base, they conducted a powerful apparatus of enforcement and accountability; hundreds of officials dealt with the wealth that flowed in and directed the slave labor force. An organized single state, harsh in its discipline and in the aims it set itself - that was where lay the strength of this movement before which all drew away or yielded.

After China it was the state of the Khorezm-Shahs, which at the time occupied great expanses from the Aral Sea to the Indus, that fell victim to the Chinghizids. Their forces thrust into Iran. They passed through Armenia, Georgia, and Azerbaidjan. They appeared in the Don steppes, and burst into the Crimea after having seized what was then the important trading center of Sudak. The advance into the steppes of eastern Europe was primarily of a reconnaissance character. A battle in which the united Russian and Polovtsian forces were shattered took place on the Kalka River in 1223.

Some years later, in 1229, Mongol detachments appeared on the river Yaik (or Ural). Here they collided with detachments of the Volga Bolgars, who contained the invasion and apparently made the Mongols depart. In 1232 the Chinghizid forces once more appeared on the eastern border of the Volga Bolgar state. The Mongols met with Bolgar resistance, and their endeavours to conquer Volga Bolgaria that year proved futile. It was only after three years had passed that pursuant to a new common decision at the kurultay there were despatched into Europe large forces which devastated the whole Bolgar state. In 1237 the Chinghizid army appeared on the borders of Rus.

In December of 1237 the army of Batu Khan besieged Ryazan. The city fell. The army then proceeded to Kolomna, shattered the Russian forces, and went on against Moscow and burned the city. In February 1238 the Mongols besieged Vladimir and took it after a bitter fight. The other cities of the principality - Suzdal, Rostov, Gorodets, and Pereyaslavl - fell too.

In March 1238 the Russian forces were smashed on the river Siti. But the conquerors did not get as far as Novgorod. On the way back to the steppe Batu made a halt outside the city of Kozelsk. Here the Russian exhibited unbelievable hardihood and tenacity. The siege of Kozelsk lasted seven weeks and it was only after having slain all the defenders that the Chinghizid warriors mastered the city.

Simultaneously with the actions of Batu in the Russian lands, his first cousin Möngke put down the Polovtsians, a group of whom had settled in the Volga bottoms under the leadership of Bachman Khan.

In 1239 the conquerors took Chernigov, and in 1240 they besieged Kiev and won it after a fierce assault.

After the Russian lands the way into the richer territories of western Europe lay open to the Mongols. The European knights and kings hastened to assemble their detachments; the tsars and emperors recruited armies. Forces of the Chinghizids were already in Poland, Bohemia, and Hungary, and had pressed through to the Adriatic. In the spring of 1241 they shattered the forces of King Heinrich the Pious at Liegnitz and on the bank of the river Sájó the Hungarian armies of King Bela IV. But the Mongol armies had become weary and could no longer put out the energy that had broken through all defenses, devastating cities and sweeping hostile forces aside like dust. The battles at Kozelsk and Chernigov, the siege of Kiev, the conflicts with the Polovtsians were all making themselves felt. In 1241 the great Mongol khan Ögedei died. There arose a danger of severe dynastic dissension concerning the position of the supreme authority, and a threat of internecine wars. At this the forces of Batu returned eastward, avoiding decisive battles with the western European knights.

At the middle of the XIIIth century one of the Mongol states, the Ulus Jochi, was set up. It comprised within its boundaries the steppe expanses of eastern Europe as far as the Danube, and also a great part of the western Siberia steppe and Kazakhstan. These areas were called the Desht-i Kipchak or Kipchak steppe. In addition the Ulus Jochi included a range of settled districts having old centers of trade and

industry: the northern Caucasus, the Crimea, Moldavia, Volga Bolgaria, the Mordvin lands, left-bank Khorezm. All these areas made up the right wing of the Ulus (later called the Ak-orda or White Horde), where the descendant of Jochi Khan's son Batu, the conqueror of eastern Europe, ruled. The lower reaches of the Syr-Darya fell to the rule of Jochi's second son Orda and made up the left wing of the Ulus Jochi, the Kok-orda or Blue Horde of the Russian sources (Fyodorov-Davydov, 1973, p. 58-62, 141-144). Rus stood in a position of dependence upon the Horde.

Later on, in the XVIth-XVIIth centuries, the Russians came to call the Ulus Jochi the Golden Horde. This name became rooted in the historical literature (Bogatova, 1970).

Nomad Steppes and Cities in the Ulus Jochi

During the conquest period the social systems that had existed in Rus, Volga Bolgaria, the Crimea, and the Mordvin lands held out and in the main retained their features even though they had undergone a severe convulsion at the moment of the assault and had lost an enormous quantity of production resources. The conquerors left alone the old production ways in these area and limited themselves to collecting tribute. If one excludes downright military plundering campaigns, the sway of the Chinghizids over the settled peoples was exercised through the intermediary of the local feudal elite.

In Russia the authority of the conquerors confined itself to the collection of tribute and the establishment of the system of baskak surveillance and administration, subject in the XIIIth century to the empire-wide Mongol sway. But the struggle of the Russian population against the darugas or darukhachis and the baskaks led to imposts being collected, as early as the end of the XIIIth century, no longer by the Chinghizid administration but by the local princes.

In the level of its social and economic development and in the forms of its feudalism, Volga Bolgaria stood very close to pre-Mongol Rus. A range of testimony obliges one to predict the existence of some sort of intermediary link between the authority of the Chinghizids and the Bolgar population - a local feudal aristocracy, princes. These princes, like the Russian ones, went to the khan of the Golden Horde to seek confirmation of their titles. One should point out, however, that subsequently, in the XIVth century, the authority of the Golden Horde khans was a great deal more powerful and direct in Volga Bolgaria than it was in Rus at that time.

The fortunes of the nomadic population, mainly Polovtsians, took another direction upon its falling beneath the sway of the Golden Horde khans. Here the Chinghizid conquest led to other results.

In the nomad steppes the aristocracy and a part of the rank and file were either annihilated or sold into slavery or led off to the East, where they were sometimes used by the Mongols as detachments for policing and repression. After the events of the mid-XIIIth century we never find in the sources any reference to Polovtsian khans in the

steppes of eastern Europe as having authority over the nomad population on the basis of feudal rights of tenure or as receiving investiture at the hands of the new rulers.

The Polovtsian steppe was not a frontier strip for the Golden Horde. It was instead their central domain. It is not by mere chance that in a series of Arabian and Persian sources the Golden Horde is identified with the Desht-i Kipchak, that is to say with the Polovtsian steppe. The Golden Horde khans ruled on their own in the steppes, not admitting local princes into the administration.

The nomadic population initially seemed to the Golden Horde elite the most convenient and natural target for oppression and exploitation. That elite plundered and devastated settled lands, took people from them, and loaded them with heavy imposts. But it did not intervene in the economic life of settled peoples. The direct exploiters were the local feudal chieftains. The conquerors, the nomadic aristocracy, were far removed from settled agricultural and civic usages and perceived in the population of villages and cities only an object of plunder or a source of tribute. The cities and the agricultural areas not only of peripheral regions but even of terrains immediately surrounding the nomadic steppe at first escaped the attention of the new nomad aristocracy. On the other hand it was possible to apply to the nomadic population of the steppes the social forms of feudal exploitation that the Mongols had brought with them and that had matured in their nomad society toward the end of the XIIth century.

The remoteness of the ulus aristocracy from administration of the settled population is shown by the fact that the collection of imposts was performed by tax-farmers, but the tribute went to Karakorum (Nasonov, 1940, p. 11, 51; d'Ohsson, II, 1834, p. 189, 265). On the other hand the local aristocracy had ordinarily to content itself with only a part of the income from the oases, cities, and settled areas that were located upon the territories their nomadic wanderings frequented. Systematic exploitation had been transferred into the hands of the imperial Chinghizid authorities.

The question of the organization of authority and the exploitation of subjugated lands gave rise to sharp conflict among the Chinghizids. Two attitudes assumed form. One group of Chinghizids strove to preserve a purely nomadic way of life and looked upon the subjugated settled lands as being merely an objective for periodic raiding campaigns. The other group among the aristocracy, headed by the kaghan Möngke, thought it indispensable to set limits to the license of the conquerors, to give the peasants and townsmen a chance to reestablish their economies so that they might become an object of continuous systematic tributary taxation (Petrushevski, 1960, pp. 48-53).

Circumstances developed in such fashion that nomadic Mongol aristocratic circles in the westward lands conquered (the Golden Horde, Iran, Central Asia) appeared to begin with as proponents of the first line of thought. It was only later on, in the second half of the XIIIth century, that the Mongol aristocracy - for example the Ulus Jochi - came to incline toward the second outlook. From the time of

Möngke onward the center of the empire, Karakorum, carried out through its widely ramified administration a policy of protectorship toward the settled lands and towns.

During the first phase of the existence of the Chinghizid empire, governing the settled oases in the turbulent nomadic steppe through an empire-wide administration made it possible to carry out a series of steps toward drawing up a census of the population and organizing communications, plus some measures for setting monetary matters in order. The settled areas of Central Asia and Iran were administered and exploited prior to Hülegü by rulers subject directly to the Great Khan, to Karakorum. The baskaks and darugas in Rus were also representative precisely of the imperial and not of the ulus administration (Fyodorov-Davydov, 1965 - 2, pp. 52-53).

But gradually this state of affairs changes. Individual Mongol ulusut (the Jochids in the Golden Horde, the Hülagüids in Iran, the Chagataiids in central Asia) become almost completely independent states. This is particularly apparent in the coins of the Golden Horde.

At the end of the XIIIth century the position of the Céntral bureaucrats in the settled lands within the Golden Horde also changed. They brought their activity in Rus almost completely to a close, leaving administration to the local princes, and supervision over the actions of the princes was taken over by the khans of the Golden Horde itself. Now very little wealth went off into Mongolia; everthing settled down in the khan's coffers.

It is with that time that intensive growth of cities in the home center of the Golden Horde, the steppe bottom lands of the lower Volga, commences. Whereas at the middle of the XIIIth century the main urban centers of the Golden Horde were Bolgar, Khorezm (Urgench), and Krym, that is to say ancient cities in the outlying lands conquered, from the 1280's onward this position was taken over by Sarai - in the delta of the "Itil" or Volga.

Sarai sprang up at what was almost a "dead spot" in the steppe, where prior to the Golden Horde khans there had been very tenuous traditions of settlement and very little population. In the Lower Volga there had once been the Khazar city of Itil, but it had faded away as far back as the Xth century. Another town, Saksin, known to us from literary sources, was not so much a city as a khan's headquarters, surrounded with nomads. Before the Mongols there was no real, settled agricultural and manufacturing population in the Lower Volga.

The old cities, where economic life had been only momentarily halted by the conquerors, rapidly revived and initially became principal centers of trade and manufacture within the young state. The khans and the nomad aristocracy mixed very little in the affairs of the settled lands of their holdings, leaving direction of them to the Karakorum administrators. But soon the Golden Horde khans themselves came to take an interest in civic life, to create manufactories, to appear in the company of the most outstanding merchants, and to organize their own trading caravans.

After having become fully competent rulers in their own ulusut and after having separated themselves from Karakorum and its administration, the khans of the Golden Horde speedily built their own cities in the Lower Volga where there had hitherto been the nomadic steppe. They drove hither thousands of craftsmen from Central Asia, Rus, the Caucasus, Krym, and Bolgar, and these with despatch threw up noteworthy cities on the Akhtuba and in the Volga delta.

But why was it that the Golden Horde khans built new cities? Would it not have been more advantageous for them to have preserved the might of the elder cities, Bolgar or Krym, and to make an old city their capital, rather than to build new cities in an empty place?

Probably the Golden Horde khans had a lively recollection of their humiliating fix when they could not handle the affairs of these old cities and had to be content with only a part of the taxes levied among the inhabitants of all these settled lands. The Jochid khans wanted to build new khan-created cities where there should be no need to share power with the baskaks and darugas of any sort sent thither by the Karakorum court of the grand kaghan; a place where they should be at ease and monocratic in their actions. It was for this reason, too, that they built these new khanate cities in the steppes where there could be no imperial bureaucrats.

At the same time the Lower Volga offered a particularly felicitous combination of flood plains suitable for agriculture, forested river banks, and extensive steppes where enormous herds might graze and a nomadic life might be pursued. Together with this, in settling here the Golden Horde khans would hold in their hands the important artery of trade for all of eastern Europe, the Volga. It was just here that there was a crossing of the ways: north to south along the Volga and passing onward via the Caspian Sea to Transcaucasia, Iran, and central Asia, and the caravan routes leading from the cities of the Black Sea littoral and from Azak to the east, across the steppes of Kazakhstan and the deserts around the Aral Sea.

The lower Volga and the steppes adjoining it made up the district of Sakin, peopled in the main by Polovtsian Kipchaks (Fyodorov-Davydov, 1969). In the history of the steppes during the Xth-XIVth centuries the lower Volga banks occupied a special position, that of an intermediary zone between the steppe populations of Kazakhstan and of eastern Europe, between two groups of Polovtsian-Kipchak race. The lower Volga steppes, sparsely settled in the XIIth century and the beginning of the XIIIth, were selected by the Jochids as the foundation territory of their new state, as the domain of the Jochid khans, probably just because there was a sort of vacuum here - a great deal of free grazing land and a population very sparse even for a nomadic steppe. These steppes were promptly settled in the XIIIth and XIVth centuries by migrants trickling perforce, but in part also of their own free will, into this zone. The springing up of cities in the steppe region of eastern Europe led in the XIIIth century and the beginning of the XIVth to the Golden Horde's becoming, as it were, the vehicle of two elements, a nomadic steppe one and an urban manufacturing and trading one. The reciprocal ties, economic and political, between these two elements determined the idiosyncracy of the Golden Horde

social system.

To begin with, the Golden Horde cities arose on the sites of the wintering camps of the khan's headquarter staff or "tent:" the "ordu," the horde." A survival from the old nomadic way of living, the mobile headquarters of the aristocrats and the khans, the "horde," was a most characteristic element in the Golden Horde social system. The "horde" doubled for the capital, the city of Sarai, frequently being both the political and the administrative-economic center. One could more likely run across the khan in his "horde" than in his urban capital.

(The Turkic word ordu originally meant "the pavilion or tent of the khan." Russian ordá has taken on and consolidated a sense of "host" or "swarm" which is solely present in the English descendant "horde" in common usage. - Tr.)

Ibn-Battuta describes the horde of Özbeg Khan in these terms: "A tent which they call the Horde now approached... and we beheld a great city with its inhabitants in lively motion; there are mosques and bazaars in it and the smoke of cooking fires hanging in the air; they cook their food at the very time they are on the move, and horses draw the wagons that bear it. When they reach their halting-place they remove the tents from the wagons and set them on the ground, since they can be carried about easily. They set up their mosques and shops in the same fashion. The wives of the sultan drove past us, each of them separately with her suite... The sultan rode up and settled into his separate tent" (Tiesenhausen, 1884, p. 289).

We know that in the 1240-1250 period Batu's headquarters were here and there on the Volga, in the summertime in the lowlands of the Volga Bolgaria region and in the winter in the bottom lands around Sarai. These north-south displacements of the headquarters pavilion were evidently associated with seasonal migrations.

From the XIVth century onward the Horde almost always migrated around and about the capital cities in the Lower Volga basin. In the second half of the XIVth century coins commenced to be struck in the Horde. At that time, after a decade of governmental turbulence in the 1360's, one notes a political dissolution of the Golden Horde, and there came about a temporary setting apart of its western districts headed by Mamai. The traditional dividing of the khan's residence between the migrant headquarters, or Horde, and the urban center, the Sarai, as it had existed earlier (a disunion that had been outbalanced by the unified central authority of the khans), was now expressed in the 1370's, as the central authority fell away, through a distancing of Sarai from Horde in political respects. The former became the center of that district of the Volga basin and the Polovtsian cities which had always constituted the immediate domain of the Jochid khan. The Horde was converted into a center not merely nomadic alone but also at the same time one taking on a number of the attributes of a city (among which one should cite principally the striking of coins). Sarai and Horde diverge territorially. The Horde now roved somewhere along the northern shores of the Sea of Azov (Fyodorov-Davydov, 1970-1, p. 81; Fyodorov-Davydov, 1973, p. 147-148).

The General Characteristics and the Evolutionary Phases of the Golden Horde Cities

The Golden Horde cities were built to be first and foremost administrative and military centers - outposts of the khan's authority in conquered lands (Yegorov, 1969). They sprang up within time spans brief against the background of history. This was facilitated by the fact that the grandiose Chinghizid wars of conquest gave rise to an influx of prisoner slaves into their centers. The Golden Horde cities in process of construction were one of the main consumers of slaves. Swarms of slaves became concentrated in the new Golden Horde cities, first as builders, then as their population - as subjected craftsmen-artisans.

Gradually the slave artisans freed themselves from their servile dependence and became converted into feudally subordinate persons bound to their masters by a range of obligatory services, but living in their own houses and maintained by their own efforts, even though they were under tutelage. Apparently it is just this process that is reflected in the following passage in Caprini's text: "They (i.e. the Mongol conquerors) pick out all the best artisans and make use of them in all their affairs. Other artisans, however, pay them a tax upon the work they do. They bring together all their harvest in the granary of their lords; but these release seed grain to them, and also such quantity of bread as will suffice them for their subsistence; to others they give daily bread to each by weight, but very little, nor do they dole out to them anything else save a small portion of meat three times in the week. And they do this only for the workers who sojourn in the cities... And in short they eat little, drink little, and dress very badly, if they do not contrive to earn something as goldsmiths or as skilled artisans of other sorts. But some have such bad masters as not to release anything to them, and these have no time, from the multitude of the master's business, for earning anything on their own unless they steal the time for themselves when, perhaps, they ought to be resting or sleeping; but this is something that the ones who are permitted to have wives or a tent of their own can manage to do. Others, however, who are held as household slaves are deserving of every commiseration..." (Puteshestviya, 1957, p. 58).

We have here two categories of prisoner artisan-slaves. One of them lives by the stingy provisioning of the master, without family or household. The other is allowed to have a family and a domicile, and may work some part of the time for itself.

Slave labor, which mounted in the days of extensive conquest in the XIIIth century, was converted in the XIVth century into the labor of a feudally dependent plebeian order.

In contradistinction to the cities of medieval western Europe and Rus, but also to the feudal cities of Central Asia, the Golden Horde cities did not arise as a result of prolonged economic evolution on their own part, but sprang up instantaneously and at places where prior to their day there had been no traditions of long-settled living. The dawning of these cities is associated with the strong despotic sway of

the khans. They went into a decline when the central authority of the khans dwindled, when it became incapable of sustaining and whetting the slave trade on a large scale, of endowing cities with a mass of seized valuables and slaves, and of contributing to the development of urban crafts and trades (Fyodorov-Davydov, 1973, p. 83-85).

The nomadic way of life does not exclude settled existence on the part of some portion of the populations - ordinarily the poorest part, lacking cattle for one reason or another. Such was the Desht-i Kipchak before the arrival of the Mongols. But after the Golden Horde took shape and especially after the consolidation of a stronger central authority the population went over to settled city life on a mass scale and became inhabitants of new and vigorously evolving cities. The wealthy, elite class of nomads also went over to this sedentary existence.

The Mongol cities of Central Asia in the XIIIth century were in a sense made up of separate forts adjoining one another and gravitating toward a large castle. The topography of the Golden Horde cities also allows one to observe a concentration of individual forts of the Mongol aristocracy. It was precisely as a result of obligatory concentration around some sort of politico-administrative center, of aristocratic seats built by the hands of captured artisans dragged hither from subjugated settled areas, that Karakorum arose in the XIIIth century in Mongolia. Rashid ad-Din wrote that "As he (Ögedei) had earlier brought with him from China various artisans and masters of all arts and crafts, he directed that there be built for him in (his) yurt of Karakorum, where he for the most part resided at ease, a palace with a very high foundation and colonnades. There followed a directive that all (his) brothers, sons, and other royal princes about him should build in the neighborhood of the palace one handsome house each. All heeded the order. When these buildings had been finished and were lying next to one another, they proved to be a great number" (Rashid ad-Din, 1960, p. 40). The kaghan's tent moved about in the vicinity of this city.

We take it that in the first period of its history the Golden Horde city consisted of a clutch of aristocratic mansions surrounded by a collection of prisoners, slaves, and dependent artisans and construction workers resettled in this place by force.

In the second period the district of exploitation of slaves became converted into a district of habitation for an urban plebeian stratum, getting by on their farmsteads and their shops, and many mansions of the aristocracy were gradually hedged about by the houses of people dependent on them - clients, freedmen, farmstead craftsmen, farm administrators. These holdings were in turn grown over with the smaller plots of vassals.

Apparently the evolution of Karakorum too went in this same direction. Let us compare the passage cited above from the work of Rashid ad-Din, who depicts the first stage in the development of Karakorum, with a description of Karakorum by William of Rubruck (Ruisbroek): "As regards the city of Karakorum, be it known to Your Highness that with the exception of the palace it yields place even to

the village of St. Denis, and the monastery of St. Denis is worth ten of this palace. There are two wards there: one of the Saracens, where the bazaar is held, and many merchants make their way there on account of the court which is always located close to it, and on account of the large number of envoys; the other ward is that of the Chinese, who are all craftsmen. Outside these wards there are large mansions belonging to court secretaries" (Puteshestviya, 1957, p. 165). Thus the mansions of the Mongol elite become mansions of court "secretary"-magnates and are hemmed in by a trading and industrial suburb. In other words, there also takes place a transformation of the city's population: the elite becomes the bureaucratic and wealthy upper crust of the city, and the slave quarters are converted into the ward of an urban plebeian caste.

A characteristic feature in the field of Golden Horde city life was a tendency toward shifting the urban capital from one community to another and toward the building of new cities. At the end of the 1330's a new capital, New Sarai, commenced to grow rapidly in Golden Horde territory. To judge by coins, many cities are at some point distinguished by the epithet "new" (Bolgar, Krym, Madjar), something which is probably linked with fresh urban construction. Cities were usually created on vacant sites. A tendency toward building cities on unpeopled terrain is also manifested by the city-building policy of the Hülagüids (for example the building of the city of Sultania, Fyodorov-Davydov, 1978 - 2). The Golden Horde cities, being new construction thrown up in short order by introduced slave artisans and helped along by cheap slave labor and large quantities of plundered material wealth, apparently offer in these respects an analogy to the new Iranian cities of the Mongol age. It was not only in the Golden Horde that this particular method of producing a city with a high slave-ownership component and with exploitation of slave labor was put to use. This phenomenon is observed on more than one occasion in the East during an age when great conquests create a surplus stock of slaves and a need for realizing on plundered wealth through placement in the field of urban and manufacturing activity.

During the period of the rule of Toktu Khan and Özbeg Khan the nomadic Mongol cream of society whose ancestors had come from Central Asia was drawn into trade and the administration of the state and came into rapprochement with the Muslim bureaucrat and merchant elite of the cities. Some representatives of the old nomadic Mongol nobility became magnates at the khan's urban palace, and took part in the conduct of trade, industry, and governmental policy (Fyodorov-Davydov, 1973, p. 89-103).

City Administration

The greatest flourishing of the Golden Horde cities falls to the time of the reign of the khans Özbeg and Janibeg, i.e. the period of the 1320's - 1350's. Completion of the formation of the state of the Jochid Mongol aristocracy is achieved during this period.

The central authority and its apparatus, the might and power of

the khan, surge powerfully forward. The land is governed by legates of the khan. The Tatar administration and forces in Rus are now subordinated to the Jochids. The khan's appointees are resident in the cities, and they govern in the name of the Jochid khan. The situation of the cities differs sharply from what it had been in the XIIIth century, when the Jochids did not administer the settled lands and the cities. Eastern authors call Özbeg the lord of Sarai, Khorezm, Krym, and Desht-i Kipchak emphasizing, as it were, an equal degree of subjugation to the khan on the part both of the steppe and of the cities. At this time we know of emirs who were governors for the Jochids in the cities of Azak, Madjar, Solkhata, Ukek, and others. A dense array of officialdom assumed form; the Arabic authors call them the rulers of provinces and cities.

The "urban darugas" had their seats in the cities. These were deputies of the khans, and their principal business was apparently the collecting of tribute. Ordinarily the daruga was one arisen from the aristocratic clans which had in the past been nomadic. A lower-level urban bureaucracy consisted of the divan-bitikchi or secretaries of the palace, bakshi who were scribes, tamgachi or agents of the custom, collectors of the tamga tax, tartanakchi or "weighers," also customs agents or collectors of dues, and "shoremen," apparently collectors of tax from vessels that tied up at the river bank. We also know of bazarde-turkhans, i.e. "those who are present in the bazaars," a sort of keepers of order and inspectors in the bazaars (Fyodorov-Davydov, 1973, p. 94-100).

Upon examining the names and honorifics of the magnates and office-holders, including the urban administrators, under Toktu, Özbeg, and Janibeg, we become persuaded that there are many Turkic-Mongol names among them. This observation cannot fail to demonstrate that in the XIVth century Mongol magnates come in to take the places of Arab and Persian officialdom and servicemen, tax-farmers and merchants; these are people who have come from the ranks of the nomadic aristocracy and have attached themselves to the city, to urban and rural management, and to the khan's administration.

Judicial and clerical offices remained in the hands of the Muslim section of the population or of moslemized Mongols: a majority of the representatives of this category had Arabic names accompanied by Muslim epithets.

A process of amalgamation, of concretion, of the Mongol aristocracy with the urban patriciate and officialdom was under way. This reinforced the Islamization of the Mongol aristocracy and its transition to a settled urban way of living. A practice of giving those who had sprung from Mongold aristocratic families Arabic and Muslim names became more usual.

At the beginning and at the middle of the XIVth century the urban patriciate and the corporation of merchants which was closely linked with it supported a strong khanate authority since this ensured tranquillity of trade, the flourishing of manufactures, and the supplying of the cities with material goods and human resources. Symbiosis of the nomadic steppe and the cities was possible only under

the aegis of the strong central authority of the khans. The situation changed in the 1360's.

In the second half of the XIVth century, at a time of partial replacement of khans, internecine wars, and turbulence, the urban magnate elite of officialdom breaks down into parties which support their own candidates for the khanate throne and pursue diverging policies. They manage the affairs of the state, and the khans become in a certain measure puppets in their hands. There are literary and archeological evidences relating to this time which speak of the destruction of major groups of the opposing elite by the winning party and its imposed khan, of the devastation of large and rich urban estates belonging to representatives of the defeated side (Fyodorov-Davydov, 1973, p. 106, 145-147; Fyodorov-Davydov, 1981).

Political unrest and the decline of centralism were painfully reflected in the plight of the cities. Archeological material and numismatic records indicate a beginning of a decline in urban life within the Golden Horde as early as the 1370's. A fleeting centralization of the Golden Horfe under Toktamysh did not preserve the cities from enfeeblement. The final blow to the cities of the lower Volga was delivered by the invasion of Timur and his forces in 1395.

CHAPTER II

ARCHEOLOGICAL STUDY OF THE GOLDEN HORDE CITIES

The Two Capitals of the Golden Horde

The capital of the Ulus Jochi was the city of Sarai. In 1333 it was visited by the Arabian traveller Ibn Battuta from the Moghreb. "The city of Sarai," he wrote, "is one of the most beautiful of cities, one which has achieved extraordinary size, filled to overflowing with people, handsome markets, and broad streets. In it there are 13 mosques for the most public services... In addition to this there are extremely many minor mosques. Many peoples live there, such as for example the Mongols who are the (real) residents of the country and its masters, some of them being Muslims; the Ases, who are Muslims; the Kipchaks, the Cherkesses; and the Russians and Byzantines who are Christians. Each nation lives in its own ward apart; there it has also its bazaars. The merchants and the aliens from both Iraqs, from Egypt, Syria, and other places live in a (separate) ward where walls enclose the property of the merchants" (Tiesenhausen, 1884, p. 306).

Another report on Sarai is contained in the works of al-Omari, an Egyptian geographer of the XIVth century. He falls to approximately the same time as Ibn Battuta, but al-Omari is a compendium of the accounts of other persons. He wrote: "The most distinguished Shudja ad-Din Abd ar-Rahman al-Khorezmi, an interpreter, told me that the city of Sarai was built by Berke Khan on the banks of the Turanian river (the Itil). It lies upon salt earth, without walls of any sort. The king's place of sojourn there is a great palace, upon the highest point of which there is a golden crescent (weighing) two Egyptian quintals. The palace is surrounded by walls, towers, and houses, in which his emirs live. In this palace they have their winter quarters. This river (the Itil), he says, is the size of the Nile taken three times and even more; great vessels ply upon it and travel to the Russians and the Slavs. The source of the river is also in the land of the Slavs. It, that is to say Sarai, is a great city containing markets, bathhouses, and institutions of piety, and a place to which wares are despatched. In its middle there is a pond the water of which is drawn from this river. Its water is used only for working purposes. They take their drinking water from the river; it is scooped out for the inhabitants in clay jugs, which they place upon wagons, carry away into the city, and there sell." (Tiesenhausen, 1884, p. 241-249).

There were two Sarais in the Golden Horde. We know this from two communications independent of each other: Ibn-Arabshah wrote that Sarai had been built 63 years before the destruction of the customs offices, by which he means Timur's campaign of 1395 (Tiesenhausen, 1884, p. 463) - i.e. in 1332. The Italian map of Fra Mauro is acquainted with two Sarais - plain Sarai farther down on the Volga, on its left bank, and Sarai Grande, higher up on the same bank (Chekalin, 1890; Kurat, 1935; Fyodorov-Davydov, 1972, p. 141).

Thus the communications of Ibn-Battuta and al-Omari cannot relate to the second "new" Sarai as A. Yu. Yakubovski supposed (Yakubovski, 1932, p. 18), but relate to the first capital, the first Sarai built not long before 1254 as we are told by Rubruck who was in these parts that year and who termed it "newly built." The sources ascribe the building of the first Sarai to Batu Khan (Puteshestviya, 1957, page 184).

The positions of the two Sarais on the Italian map correspond to those of two enormous townsites on the left bank of the Akhtuba - the sole possible claimants to being the ruins of these two capitals, and beyond question the two largest cities of the Middle Ages. The southward one is the Selitryonnoye site, located in the Astrakhan oblast' upstream from Astrakhan, and the northward one is the Tsarevo site in the Volgograd oblast', south of Volgograd (the former Stalingrad - Tr.)

Ibn-Battuta writes that the journey from Hadji-Tarkhan to Sarai, which he describes, takes three days on the ice of the Itil and the streams intercommunicating with it (Tiesenhausen, 1884, p. 306). This corresponds to a position of Sarai on the Selitryonnoye site, which is approximately 120-130 km. from Astrakhan and Shareny Bugor (the presumed site of old Astrakhan). Pegolotti speaks of daytime travel between Hadji-Turkhan and Sarai by river as well (Pegolotti, 1936, p. 21-23).

We know from what the written sources tell us that Özbeg commenced toward the end of his life to build a new capital which was not yet a large city in the 1330's (Tiesenhausen, 1884, p. 230). We are also aware that it was only with the start of the reign of Janibeg, i.e. in the 1340's, that they commenced to strike coins in "New Sarai" (Sarai al-Djedid). One must suppose that New Sarai was the second Sarai in point of time. When we study the numismatic records left behind by the mintages of the two Sarais we learn that the abundant annual coinages of this city of New Sarai, reflecting intensive political and economic life there, fall to the period of the 1340's-1390's. Sarai not called "New" strikes from the 1280's to the beginning of the XVth century, but regularly and without particularly great interruptions only in the years of the 1310's-1340's.

Which, then, of the two claimants to being Sarai, the Tsarevo site or the Selitryonnoye one, should be assigned to the first capital city of Sarai, and which to the second capital of New Sarai? This problem was long pondered in Russian historical science. A. V. Tereshchenko, who had investigated the Tsarevo site in the middle of the XIXth century, considered that it was the site of Sarai the capital of the Golden Horde, and he assigned the ruins at Selitryonnoye to the first temporary field headquarters of Batu Khan. Kh. M. Frähn, after studying Tereshchenko's material, associated himself with the Tsarevo site, considering, however, that New Sarai was a part of Sarai and thus holding to the view that there was a single city of Sarai.

The first to relate Sarai (the first capital) to the

Selitryonnoye site, basing himself on numismatic materials, was F. Müller (Müller, 1839, p. 577). The idea of two Sarais was supported by I. Osmolovski and G. S. Sablukov, who regarded the Selitryonnoye site as being Sarai but without placing New Sarai, and also Spitsyn and D. F. Kobeko (Osmolovski, 1846; Kobeko, 1890; Spitsyn, 1894, pp. 82-84). The idea of a single Sarai, and one that had existed on the Selitryonnoye site withal, was put forth by N. M. Karamzin. Although V. V. Grigoriev did not deny the existence of two Sarais, he placed a Sarai, without saying which, at the Tsarevo site (Grigoriev, 1845, p. 204-211). A two-Sarai theory with assignment of the first to the Selitryonnoye site and the second to Tsarevo was advanced by F. K. Brun (Brun, 1878) and F. F. Chekalin (Chekalin, 1890). The problem of Sarai and of the mysterious city of Gulistan, known from coins, was taken up in a polemical exchange between N. I. Veselovski and V. K. Trutovski (Trutovski, 1889; Veselovski, 1907; Trutovski, 1911; Veselovski, 1912). Trutovski contended that Gulistan was a city and that it was located on the Selitryonnoye site, and that New Gulistan was a ward of that city. Later Veselovski came to hold that Gulistan was a palace in a suburb of Sarai, taking it that Sarai was located on the Tsarevo site and Gulistan at the village of Kolobovka a little to the south of Tsarevo. Tereshchenko, who excavated at Kolobovka, considered that the khan's out-of-town palace lay there. Neither Trutovski nor Veselovski was able to adduce convincing arguments in support of his theory.

An equivalation of the Tsarevo site with New Sarai and Selitryonnoye with old Sarai appeared in the work of F. V. Ballod (Ballod, 1923 - 2). It was adopted later on by A. Yu. Yakubovski (Yakubovski, 1931-1; Yakubovski, 1932).

The coin material and the archeological finds at the Selitryonnoye site show that the city which left behind these ruins was thriving in the first half of the XIVth century, preserved its importance as a population center in the second half of the century as well, and continued to exist at the beginning of the XVth century. The Tsarevo site does not provide any considerable number of coin finds for the first third of the XIVth century and does not offer substantial archeological or numismatic remains that might be dated to the end of the XIVth century or the beginning of the XVth. These chronological considerations oblige one to locate Sarai at the Selitryonnoye site and New Sarai, built only in the 1330's and destroyed in 1395, at the Tsarevo site (Yanin, 1970, pp. 195-197).

If this is so, then the Sarai Grande shown higher up on the Volga on the Italian map corresponds to New Sarai (the Tsarevo site) and the one shown lower to Sarai (the Selitryonnoye site). Sarai Grande - New Sarai was the capital in the second half of the XIVth century, as this map in fact indicates. It is not by mere chance that at this time it was precisely New Sarai that struck an enormous quantity of coin, and that Sarai carried out only small sporadic issues that became somewhat stronger only in the 80's and 90's of the XIVth century.

The sources ordinarily do not distinguish between New Sarai and simply Sarai. Sometimes they speak of the New Sarai in which Özbeg died in 1342 (Tiesenhausen, 1884, p. 263). Yet on coins they wrote "New Sarai" and "Sarai" (the latter sometimes with the epithet "al-

Makhrus," which means "preserved of God"). One must suppose that "New Sarai" is a new mint in a new city, i.e. in a new capital, a second Sarai corresponding to the Tsarevo site.

It is not clear what the dwellers in these two Sarais themselves called their cities - whether they did so as on the coins, "Sarai" or "New Sarai." Probably it was just so, although a majority of sources fail to pin this down. In the sources there are divergences of opinion as to what khan these cities were built under - Batu or Berke. From the fact that Rubruck saw Sarai in 1354 it follows that it was built under Batu, who died in that very year. Testimony in later sources of the XIVth century to the effect that the city was built by Berke (Tiesenhausen, 1884, p. 241; Tiesenhausen, 1941, p. 133) is in error. This error arises from the fact that in the XIVth century and particularly in the XVth century the whole Golden Horde was sometimes called by the name of Batu but more frequently by the name of Berke, as the one who laid the foundations of the Muslim ulus. Ulus Batu, Ulus Berke - that is what the Golden Horde was called in the XVth century. The cities of Sarai and New Sarai are assigned now to one and now to the other of the khans. In this way there arose two terms, "Sarai-Batu" and "Sarai-Berke," which are scarcely unequivocal as references to the two "Sarai" capitals. One and the same city could be dubbed both Sarai-Batu and Sarai-Berke in eastern authors. In the historical literature since A. Yu. Yakubovski the term "Sarai-Batu" has become firmly rooted for the first capital, as has also the term "Sarai-Berke" for the second capital (Yakubovski, 1931 - 1, p.7, 8).

The Selitryonnoye Site

The Selitryonnoye site was examined by travellers of the XVIIIth century and by archeologists of the XIXth century and the beginning of the XXth (Zagoskin, 1884; Spitsyn, 1894, p. 85). Small digs were carried out on it in the 1920's by F. V. Ballod. He excavated a well, a kiln for ceramic ware and architectural ornaments, an underground mausoleum, and several habitations (Ballod, 1923 - 2, p. 30-60). In 1928 an expedition headed by P. S. Rykov carried out excavations on the site; it excavated a number of burial vaults and habitations (Rykov, 1932). The Selitryonnoye site came to be systematically studied by the Volga Archeological Expedition (for a narrative of these operations see the journal Arkheologicheskiye Otkrytiya for 1966-1971 and 1975-1979).

On the Selitryonnoye site the Volga expedition excavated an industrial complex in the center - dating from the XIVth century - of that part of the area occupied by ceramic workshops. The complex consisted of a large crafts manufactory occupying a whole block marked off by streets with ditches and drainage installations. All sorts of glazed and unglazed vessels and architectural ornaments were fired in this large workshop.

The complex of a glass-manufacturing shop was also investigated. Traces of the shops of ivory- and bone-carvers and of jewellers and shops processing semiprecious stones were brought to light, likewise the ruins of a brick-kiln.

In addition to the crafts shops a large and rich villa *

* Hereinafter the single Russian word usad'ba will always be translated "villa." Not only is it always a plot of land having a separate house standing upon it, but it is also always a working farm, even when in an urban locality. It is more like the Roman villa rustica than like the modern estate agent's idea of what a villa is. The alternative would be to call these holdings "farmsteads," and if the term "villa" grates upon the reader, he may think "farmstead" in its place. - Tr.

was investigated. The central house of this villa was completely bared, as was a considerable part of its courtyard with premises for the dependent personnel of the villa. A number of periods in the reconstruction of this house were traced down. After its complete downfall there arises on the site of the villa a Muslim cemetery of which the tombs excavated here form part. The house of the villa falls to the middle of the XIVth century, the cemetery and the tombs to the end of that century. In addition to the tombs of this cemetery there was brought to light on the townsite a single-chamber underground mausoleum of the XVth century.

Another rich house was unearthed - of palace type with a complicated system of state rooms, living rooms, kitchens, bath rooms, and the like, joined together by corridors. A bath-house adjoined this mansion.

The earliest part of the city, from the XIIIth century, has not yet been exposed. One may draw an approximate picture of the historical topography of the city only for the middle to the end of the XIVth century. The city stretched along the bluff of the Akhtuba. By reason of its state of ruin one cannot at present say even approximately to what distance urban construction extended inland from this bank. The city runs three or four kilometers along the bank.

The principal and most densely settled part of the city lay in the area between Krasny Bugor (Red Hill) and Bolnichny Bugor (Infirmary Hill). The uninterrupted housing construction in this part of the city had streets with aryks (broad, deep irrigation ditches - Tr.) which were tracked down in part by the excavations, but in the main by aerial photography and by microrelief surveying. In the western part of the city, construction was of a plainly manifested villa character. Rich aristocratic farms enclosed by brick walls arranged as squares and having a large central mansion, houses for market-garden workers, servants, and the administrative personnel, a reservoir, and auxiliary structures constitute the basis of the city planning in this part of the town. The villas collapse in the 1360's and 1370's as a consequence, we take it, of unrest within the Golden Horde, and in the 1380's and 1390's this part of the city dies away and becomes covered with cemeteries but is partly sprinkled with rank-and-file city dwellers. At the end of the XIVth century cemeteries press in upon the city from the east in analogous fashion, so that then and at the

beginning of the XVth century a relatively small section in the area of the so-called "kuchuguras" remains alive.

In the northern part of the site there is a large lake, perhaps the "pond" of which al-Omari wrote. On its southern bank, to judge by finds, shops of artisans were set up, including ones for processing semi-precious stones.

On the hills to the northwest of the main area of the site the remains of Golden Horde tombs have survived.

Beyond the limits of the densest building separate "patches" of culture stratum extend for several kilometers - traces of the city suburbs - with villas, clusters of houses, the shops of artisans, and cemeteries. Despite the fact that at present 8600 square meters of culture stratum have been laid bare on the site, not even fragments of any underlying pre-Mongol stratum have been brought to light, nor objects that might be dated to the XIIth century or the beginning of the XIIIth. This speaks to the effect that the city was built on a bare "empty" spot. But Rubruck reports that Sarai was built side by side with "Summerkent" (perhaps this is Saksin). There are some grounds for supposing that Saksin stood on the site of Itil. In this way Sarai, the first capital of the Jochids, was perhaps built close to the old traditional sites of the capitals of these regions, Itil of the Khazars and Saksin of the Guzes (Puteshestviya, 1957, p. 185; Fyodorov-Davydov, 1969, p. 261).

But archeological data confirming these propositions are not at hand - Saksin and Itil have never been found thus far. L. N. Gumilyov holds that Itil was wiped out by rises in the Volga water level in the Xth and XIIIth centuries. The historians report that Saksin was swept away by the Volga. Opposite the Selitryonnoye site on the right bank of the Akhtuba, beneath a stratum of alluvial river deposits, he found a number of shards of ceramic ware of pre-Mongol origin (Gumilyov, 1966). Yet the paucity of these finds prevents us from acknowledging that they are relics of Itil, as he proclaimed them to be.

Apparently a rise of the Volga did actually take place in the XIIIth century. Sometimes Sarai became a seaport, as it were, because the lower course of the Volga was converted into a great gulf of the Caspian Sea as a result of these rises. This is attested by the building of the city on a bluff - it lay in a zone inaccessible even to a great rise in water level. The lowest parts of the townsite lie 13-14 meters above the present level of the Caspian.

Rubruck reports that in the 1250's the Volga divided into several branches lower down at Sarai. A great rise in the Volga was a sporadic and not a constant phenomenon. When there was a flooding, Sumerkent (that is to say, the pre-Mongol city in the Volga flats round about Sarai) became an island and the flood plain covered over with water attained a breadth of seven leagues - approximately the breadth of the present flood plain of the Volga and the Akhtuba. As Rubruck reports, and this too corresponds to the reality, Sarai stood on the eastern shore of this flood plain (Puteshestviya, 1957, p. 185). In the XIVth century the level of the Caspian and of the lower course of the Volga

and the Akhtuba fell. Abul-Feda writes of Sarai that it was located at two days' travel from the Sea of the Khazars. This report applies to the first half of the XIVth century (Aboul Feda, 1840, p. 217). Accordingly the sea was pretty far removed from the city. Finds of coin hoards in the Volga delta almost at the present edge of the Caspian, and also Golden Horde townsites in the delta, speak quite convincingly to that effect.

The Akhtuba existed as an auxiliary tributary of the Volga in the XIVth century, as is manifest from Ibn Arab-Shah's indication that Sarai stood on the bank of a river "leading off from the Itil," and also from Ibn Battuta's report in which the Itil and the waters joining it on the journey to Sarai are mentioned (Tiesenhausen, 1884, p. 306, 463). F. V. Ballod held that Abul-Feda's Sarai was New Sarai. But the Tsarevo site could not lie two day's journey (about 70 km.) distant from the Caspian Sea, since it lies more than 350 km. from the southernmost Golden Horde townsite (Krasnoyarskoye, near Astrakhan). The Selitryonnoye site is about 120-130 km. from Astrakhan. In the 20's of the XIVth century Abul-Feda could not have called old Sarai, the Selitryonnoye site, Eski Yurt ("the old settlement"), because in those years old Sarai was the capital of Özbeg, as is plain from the coinage.

As for the numbers of the populations of the Sarais, there is indication in the Arabic sources that more than 75,000 persons lived in Sarai (we do not know which) (Tiesenhausen, 1884, p. 550).

The Tsarevo site

The Tsarevo site was described by the Saratov local historian A. F. Leopoldov (Leopoldov, 1837) who, following the travellers of the XVIIIth century and the beginning of the XIXth, believed that this site was the ruins of Sarai. Leopoldov supposed the existence of two Sarais, but the first of them he assigned to this site, erroneously taking it that the city had been built long before Batu.

Starting with 1843 A. V. Tereshchenko's excavations at the Tsarevo site commenced. They went on until 1851 (Tereshchenko, 1843; Tereshchenko, 1844; Grigoriev, 1845; Grigoriev, 1847; Tereshchenko, 1850; Tereshchenko, 1854; Teterevyatnikov, 1943; Zhiromski, 1959; Guseva, 1975). These excavations produced many rich objects, but run-of-the-mill material of every-day life either failed to be identified and collected, or has not been passed down to our days. Tereshchenko excavated workshop complexes, a palace of the khans, the central part of the site (it is from these two targets that the richest of his finds apparently come), a bazaar, and other spots.

In the 1920's F. V. Ballod studied the Selitryonnoye site side by side with the Tsarevo one, excavating some structures and tombs upon it. His topographical description of the site with a hasty breakdown of the areas of the city - administrative, the elite quarter, trade, a district of suburban truck-gardens and villas, the city proper - turned out to be altogether invalid (Ballod, 1923 - 2).

Systematic excavations on the Tsarevo site were carried out in 1959-1973 by the Volga Archeological Expedition under the leadership of the author (for a narrative on these operations see Arkheologicheskiye Otkrytiya for 1965-1968 and 1973).

In the southwest part of the site three villas of the elite were investigated; courtyards surrounded by a rectangular fence, with a basin and with rich houses in the center as well as houses for farm service personnel, guards, or administrative personnel (Illustration 113, figure 1).

In the courtyards of some rich villas (in the southern part of the site), each having a well-appointed house of many rooms, there were brought to light large slave dugouts without heating, and also traces of yurts - a reminiscence of nomadism in the case of a Mongol elite that had gone over to a settled way of life.

In New Sarai's eastern suburb three villas were excavated; they contained remains of crafts activity and were arranged along one street. Here one could trace out the gradual development of the building up of this street.

Blocks of craftsmen and small traders were excavated in the central part of the city. The shop of a master artisan making kashi * slabs for mosaic work and ceramic figurines of animals - children's toys - were discovered here. In this same area of the central part of the city a crossing of two streets with their aryks was excavated. It proved to be the case that even before the appearing of city planning in the 1350's there were at this spot extensive sunken-floor houses that had no heating ovens but were heated only with braziers. These were evidently the living quarters of slaves driven in to build the city and constituting the main part of the population in the first period. But soon, by virtue of the general tendency of the city's evolution during the era of feudalism, this population became converted into a semi-dependent urban plebs which to begin with made semi-dugouts and afterwards wooden houses standing above ground. Synchronously with the above-ground houses, there arises here city planning with aryks and with reservoirs at crossings and on squares.

* The term kashi is defined in the next chapter, but see also the article "Kashan" in the eleventh edition of the Encyclopedia Britannica - Tr.

Initially New Sarai had no town walls. A defensive embankment and trench, built around the city only in the 1360's, encircled the flat area of the city within an oval of some 1.6 x 1.0 km. Just as with the Selitryonnoye site, the Tsarevo one had apparently no underlying pre-Mongol stratum. On an area of about 9700 square meters of cultural stratum exposed by the Volga Expedition, not once were even fragments of a stratum or of finds of the XIIth or early XIIIth century discovered.

The microrelief of the Tsarevo site has been much better preserved than was that of Selitryonnoye. In the first half of the XIXth century it was still better preserved. Present-day observations

on the microrelief of the Tsarevo townsite are well corrected by reference to plans drawn up before and during the work of Tereshchenko. At that time investigators were able to distinguish each house and all the streets. On a plan drawn up before Tereshchenko's operations it is possible to count up to 1550 individual houses on only the inner side of the embankment of the 1360's (Teterevyatnikov, 1843).

Outside this embankment one can trace out, just as at the periphery of the Selitryonnoye site, individual villas becoming ever greater in area to the east and south as they lie farther and farther from the city's center; and separate concentrations of houses, small farmhouses, crafts workshops, and buildings of like sort. The overall area of these structures is about 400 hectares.

The microrelief of the Tsarevo site and the old plans of this memorial enable one to determine that there was a great square in the center of the city, lined to the south and east with edifices considerably larger in dimensions than its other buildings. From this sqauare streets departed to the outskirts; side-streets shot out from these, and on the whole a rectangular configuration was maintained. As a rule all the streets had aryks.

On the dikes which arose as a result of the throwing up of earth along the aryks, footpaths went their way, some of them being paved with brick; small wooden bridges were set up to cross the aryks at street corners and at other places.

In the southeastern part of the city where planning is of a farm-plot character the streets were lined with such plots, which were of rectangular, square, or trapezoidal outline depending on the direction of the streets.

A large almost square open area can be traced out through the microrelief in the eastern part of the city as well, hard by the embankment and moat. To this day there have been preserved here the depressions left by four large reservoirs.

In the northwestern part of the Tsarevo site there was beyond the main embankment a second one setting apart a suburb. To the west of this suburb villas were laid out. One such villa is interesting in that it constitutes a whole complex of seven houses joined together by a wall encircling all of them with their separate plots.

Aristocratic villas were also laid out along the more remote approaches to the city from the east. One of them is particularly large - its dimensions are 200 x 130 m. It had a large mansion, a reservoir, and a house for farm staff, as did also other and smaller villas.

To the west of the city was a large lake around which there was again housing construction at the start, but where a cemetery later assumed form even in the XIVth century. There were also cemeteries north of the city. At a short distance from the city there was a group of barrows, left behind in the XIVth century (i.e. while the city was still a living entity) by neighboring nomads. This indicates that a

nomad population had installed itself in immediate propinquity to the borders of New Sarai.

In contradistinction to the Selitryonnoye site, the Tsarevo one (New Sarai) lay in a flood plain, below the river bluff and probably at the very edge of the river. Even with the level of the Caspian high, here at 250 kilometers and more upstream on the Akhtuba the ancient city could settle down in the river flood plain without danger of being flushed out.

The Vodyanskoye Townsite

Remains of a small provincial town of the Golden Horde are located 40 km. above Volgograd on the right bank of the Volga near the city of Dubovka. After small-scale digs at random in the XIXth century and at the beginning of the XXth (Chekalin, 1888; Zaikovski, 1908; Zaikovski, 1915; Shcheglov, 1915; Ballod, 1923 - 1), it was investigated by the Volga Archeological Expedition. There were laid bare here a total of about 5200 square meters of culture stratum (for an account of this work see Arkheologicheskiye Otkrytiya for 1967-1974). This townsite, which has come to be called Vodyanskoye, is regarded as being the Golden Horde's Beljamen, mentioned in the sources and on the Italian maps. Abul-Feda reports that Beljamen is located on the Volga between Ukek and Sarai. The Italian cartographers likewise locate it there.

D. F. Kobeko suggested that the "Bezdezh" of the Russian chronicles was north of Sarai (Kobeko, 1892). V. L. Yegorov associated Bezdezh with Beljamen and the Vodyanskoye site. The report that at Bezdezh there were Christians who had found the grave of Prince Mikhail or Tver who had been killed in the Horde is associated by Yegorov with the Russian colony discovered by archeological means at the Vodyanskoye site (Polnoye Sobraniye Russkikh Letopisei, vol. 25, 1947, p. 175, 166, 182; Yegorov and Poluboyarinova, 1974, p. 41). We may remark that the Bezdezh of the Russian chronicles may be associated with Barjin (or Bazjin), the name of a city which struck coins in the 1350's (Yanina, 1954, No. 68).

Yegorov also associated the Vodyanskoye site with the village of Russians and "Saracens" (Bolgars) which Rubruck had visited and where he had described a Volga crossing. But this association is contradicted by the following circumstance: Rubruck indicates that it is no more than five days' journey from this crossing point to Volga Bolgaria. From the Don to this point on the Volga the journey is ten days according to Rubruck's indications. Both these reports fail to correspond with the position of the Vodyanskoye site (Puteshestviya, 1957, p. 111, 118, 230).

At the Vodyanskoye site the sector settled by Russians has been excavated; it is identified by Slavic ceramic ware, a Christian necropolis, and findings of objects of Christian worship. The Bolgar component is represented by large bell-shaped grain pits, certain peculiarities of construction technique, and burial customs found to be present at the excavated city cemetery of the Muslims.

At the Vodyanskoye site a bath-house with an underground heating system has been excavated, also a range of typically Golden Horde houses (Illustration 113, figure II).

Outside the site a mausoleum with a cupola covering the place of repose and with a portal ornamented with mosaic work has been dug up.

A large public mosque built at the middle of the XIVth century and a large ward of row structures to the south and north of it have been completely excavated. On the site of the mosque there were houses and semi-dugouts of the preceding period - the 1330's and 1340's. A cemetery came into being within the mosque and around it during the time of its operation, but for the most part it functioned after the mosque had been abandoned.

New Sarai (the Tsarevo site) and Beljamen (the Vodyanskoye site) perished as a result of the Timur invasion of 1395. Traces of that sack have survived, skeletons of people carelessly buried or simply cast aside, separated parts of skeletons, and skulls, amid the ruins of buildings. Sometimes one finds skulls piled up in heaps - perhaps remains from a count of the slain (Grigoriev, 1847, p. 371). Sarai (the Selitryonnoye site) still existed in the first half of the XVth century. No traces of a sack at this site have been turned up. Just as with the Tsarevo site, the Vodyanskoye one commences to go into a decline as early as the 1370's as a result of internal dissension within the state. Many excavations at the Vodyanskoye and Tsarevo sites have failed to yield coins, commencing with the second half of the 1360's, even though such coins were struck. Ordinarily in such excavations there are no traces of the sack of 1395. But many installations bearing traces of the sack of 1395 also fail to produce coins of the 1380's - 1390's. That is to say, evidently such sites went their way through those years in a state of neglect. Large areas of the Selitryonnoye, Tsarevo, and Vodyanskoye sites, and a succession of villas on the first two, go into a decline and become shabby as early as the 1370's.

Other Golden Horde Townsites

The remaining cities of the steppe central portion of the Golden Horde territories have been investigated with considerably less thoroughness. Lying on the Volga are Golden Horde cities that have been superficially investigated by A. A. Spitsyn, F. V. Ballod and N. Arzyutov, and others.

Golden Horde settlements are known on the Volga at Volgograd and upstream from it - the Mechetnoye townsite, which is equivalated with Tartanly that appears on the Pizzigani map of 1367; at the villages of Vinnovka, Ternovka, Peskovatka, Danilovka, Proleika, Akhmetovskoye, Shiskhin Bugor near Kamyshin, and outside the village of Podstepnoye near Engelsk (Zaikovski, 1913; Ballod, 1923 - 1; Arzyutov, 1936, p. 104).

At Saratov there are small Golden Horde settlements (Krotkov, 1926, p. 51), and some kilometers outside Saratov one finds the ruins

of the major Golden Horde city of Ukek which struck coins - the Uvek townsite, where a rich mausoleum was opened up in 1913, as were kilns and dwellings later on by Ballod (Frähn, 1911; Ponomaryov, 1879; Minkh, 1881; Sabulkhov, 1884; Golitsyn and Krasnodubrovski, 1891; Medoks, 1892; Spitsyn, 1914; Krotkov, 1915; Ballod, 1923 - 1). Opposite Uvek there is a Golden Horde settlement at the village of Kvasnikovka (Krotkov and Shishkin, 1910).

Below Volgograd on the left bank of the Akhtuba a string of Golden Horde settlements is again laid out. Beside Tsarevo and Selitryonnoye which we have described, there are settlements here at the villages of Kolobovka, Lapas, Dosang, Bezrodnoye, Zaplavnoye, and Bakhtiarovka (Ballod, 1923 - 1, p. 18-19).

Near Astrakhan there is a Golden Horde settlement with traces of Russians having sojourned there (Russian ceramic ware) at the hamlet of Moshaik (Arkheologicheskiye Otkrytiya, 1978, p. 203). In the Volga delta on its right bank there is a Golden Horde settlement on Shareny Bugor, which is identified with Khadji-Tarkhan, a Golden Horde city which struck coins. During the excavations of A. M. Mandelstam and V. A. Filipchenko potters' kilns, dwellings, and dugouts were opened here in 1966. Russian ceramic ware has been found on the Shareny Bugor site (Spitsyn, 1894; Arkheologicheskiye Otkrytiya, 1966, p. 89; Yerzakovich, 1973). Potters' kilns and an extensive cemetery were investigated in the Volga delta at Khan-Tyube and the neighboring Tumak-Tyube, two hillocks in the delta of the Volga on its left bank (Arkheologicheskiye Otkrytiya, 1969, p. 175; Shnaidshtain, 1979). There are also Golden Horde settlements southward in the Volga delta at the villages of Samosdelnoye, Novorychanskoye, Dmitrievka, Krasny Yar, Seitovka, Kozhetayevka, the Chertovo townsite, and Baibek (Ballod, 1923 - 1, p. 130; Filipchenko, 1958, p. 247; Arkheologicheskiye Otkrytiya, 1969, p. 175-176; Yegorov, 1977, p. 120).

A regularity in the arrangement of the Golden Horde settlements on the banks of the Volga and the Akhtuba can be made out. Above Volgograd the settlements are set upon the high right bank of the Volga. Exceptions are a small potter hamlet at the mouth of the river Yeruslan, settlements at the villages of Upper Pogromnoye and Lower Pogromnoye, one at the village of Kochetnoye (Ballod, 1923 - 1, p. 97; Spitsyn , 1894, p. 107), and large villages on dunes by the rivers Yeruslan and Bolshoi Karaman. Below Volgograd settlements are ranged upon the left bank of the Akhtuba, except for Shareny Bugor at the very mouth of the Volga.

Golden Horde settlements are found in the mesopotamia between the Don and the Volga. On the river Ilovlya there has been brought to light an industrial complex with furnaces, a kiln, and remnants of blacksmithing output from the Golden Horde period (Yegorov, 1977, p. 119). V. P. Levashova investigated a Golden Horde settlement at Krasny Khutor in the Voronezh oblast'. Brick kilns, a dwelling, and a necropolis were laid bare here (Levashova, 1960). There is a Golden Horde settlement at the village of Raigorod in the Kharkov raion (Spesivtsev, 1899, p. 84; Spesivtsev, 1905, p. 260-263).

According to Rubruck's narrative there was on the left bank of

the Don a Golden Horde village where Russians lived who ferried emissaries and merchants across the Don on boats. This village had been laid out by direction of the Khans Sartak and Batu. Downstream on the Don, according to Rubruck, there was a second such village. This speaks to the effect that there was carriage of goods and posts across the Volga and the Don as early as the middle of the XIIIth century (Puteshestviya, 1957, p. 109-110). Rubruck also wrote that Sartak, Batu's son, who was a Christian of the Nestorian sect, had erected on the right bank of the Volga a village with a church (Puteshestviya, 1957, p. 185). This village has not been brought to light archeologically, as is also the case with the two villages on the Don.

A number of Golden Horde settlements in the Urals are known. The main one is the ruins of the Golden Horde city of Saraichik, which struck coins. Ceramic-ware shops and dwelling structures, among them a large house of adobe * bricks, have been studied there (Kastanye, 1910, p. 95-97; Arzyutov, 1949, p. 126-135; G. I. Patsievich, 1957; Agapov and Kadyrbayev, 1979, p. 187-193). In the southern Ural foothills a Golden Horde mausoleum has been preserved.

* The term "adobe" is used throughout, for brevity's sake, where "sun-dried" would be equally appropriate - Tr. Also "mudbrick" - Tr.

Below Saraichik on the river Ural two small Golden Horde settlements have been laid bare outside the village of Tendryk. Northwest of the river Ural Golden Horde settlements on the river Kinel are also known (a large village and a pottery complex at the village of Sukhorechenskoye - Yegorov, 1977, p. 122; Mershchiyev, 1969, p. 153-161; Arkheologicheskiye Otkrytiya, 1971, p. 193).

The settlement of Isker existed in Siberia from the middle of the XIVth century onward, later becoming the capital of the Siberian khanate.

A Golden Horde strongpoint in the lands of the Mordvins was the city of Moksha near Narovchat in the Penzenskaya oblast', which struck its own coins. At this site A. E. Alikhova opened up a number of bath-houses, tombs, kilns, and a house of Golden Horde type, with structural units and ceramic ware that placed them close to the remains of the XIVth century in Volga Bolgaria (Krotkov, 1923; Lebedev, 1958; Alikhova, 1969; Alikhova, 1973; Alikhova, 1976).

We are acquainted with a Golden Horde citadel of the XIVth century outside the village of Ityakovo in the Mordvin ASSR. This is a small castle built on an ancient site from the beginning of the first millenium A.D. (Fyodorov-Davydov and Tsirkin, 1966).

In the north Caucasus V. A. Gorodtsov in 1907 studied Madjar, a major Golden Horde center that struck its own coins (Gorodtsov, 1911). Here dwelling complexes and necropoleis were investigated. Golden Horde townsites and tombs have been investigated in the Madjar neighborhood (V. K. Savelyev, 1884; Prozritelev, 1906; Minayeva, 1968; Rtveladze, 1970; Grazhdankina and Rtveladze, 1971; Vokova, 1972; Rtveladze, 1972 - 2; Rtveladze, 1973). To judge by the Russian

chronicles there was a Russian church at Madjar.

There are Golden Horde settlements on the river Sunzhe, a right-hand tributary of the Terek (Minayeva, 1965, p. 100). In Daghestan there are memorials of the XIVth century containing Golden Horde materials. Derbent was part of the Ulus Jochi; there are Jochid clan emblems on its walls.

Excavations under the leadership of E. I. Krupnov and O. V. Miloradovich have been carried out at the Verkhni Djulat townsite in the northern Osetin ASSR; some archeologists identify the site with the Golden Horde city of Dedyakov. A complex of two small mosques of the XIIIth century has been brought to light here. Other scholars identify Dedyakov with the Alkhankalinskoye townsite in Checheni-Ingushetiya. We know of a Golden Horde memorial in the Kabardin-Balkar ASSR - the Nizhni Djulat townsite, where a minaret was located (Safargaliyev, 1956; Miloradovich, 1963 - 1; Miloradovich, 1963 - 2; Vinogradov, 1968; Chechenov, 1969; Markovin and Oshayev, 1978).

In the Pyatigorye area there are a number of tombs of the XIVth century (Rtveladze, 1969; Polimpsestova and Runich, 1974).

The Azov townsite - the Golden Horde city of Azak - has been subjected to sporadic excavation. There have been dug up here not only Golden Horde pottery-kilns and houses but also the stone gateway of the Italian colony of Tana. Excavations were carried out in the 1930's by B. V. Lunin and S. A. Vyazigin and in the 1960's and 1970's by L. L. Galkin, N. M. Bulatov, and N. M. Fomichev (Vyazigin, 1940, p. 50-52; Lunin, 1949; Arkheologicheskiye Otkrytiya, 1971, page 168; same for 1973, pages 100, 101; Galkin, 1975; Arkheologicheskiye Otkrytiya, 1977, p. 146-149).

In Stary Krym (Old Krym), which was the center of the Crimean tumen under the Mongols and which bore the name of Krym or Solkhat and struck coins, there have survived from the Golden Horde period ruins of some sort of public building - to judge by the way it is planned, perhaps a medrese (Illustration 5, figure IV). Major archeological work has not been performed here; the memorial has merely been subjected to excavations by M. G. Kramarovski in the last few years. Contemporaneously with Krym there also existed the old pre-Mongol cities of Kerch, Kaffa, and Sudak (where a mosque of the XIVth century has been preserved), also Kherson, as well as the Italian colonies on the coast (V. D. Smirnov, 1887; Markevich, 1888; Markevich, 1894; Bashkirov, 1914; Bashkirov and Bodyanski, 1925; Borozdin, 1926 - 2; Bodyanski, 1927; Bashkirov, 1927; Lapin, 1928; Frondjulo, 1974; Arkheologicheskiye Otkrytiya, 1979, p. 290-291.

Ancient Moncastro, i.e. Ak-kerman, the present Belgorod-Dnestrovski, a large Golden Horde city with an Italian fortress, is being examined archeologically. At this memorial dwelling complexes and kilns for the firing of ceramic ware and for producing quicklime have been discovered (Dmitrov, 1949; Rabinovich, 1968; Kravchenko, 1976; Kravchenko, 1979).

Large-scale excavations have been carried out in Moldavia at the Stary Orkhei townsite - which S. A. Yanina associated with the city of Shehr al-Djedid, i.e. "New City," which struck its own coins in the 1360's (Yanina, 1977). This association is countered by the fact that major cities could scarcely remain under Mongol sway in Moldavia after the battle at Siniye Vody in 1363. In that battle the Mongols suffered defeat at the hands of the Lithuanian prince Olgerd. At Stary Orkhei not only dwelling houses but also pottery complexes, a mosque building, and a bath-house have been studied. In Moldavia pottery kilns and the dwellings of artisans have been undergoing excavation at the Golden Horde townsites of Costesti and Lozovoye. Somewhere between the Dniestr delta and that of the Danube lay the major Gold Horde city of Kiliya (G. D. Smirnov, 1954; Rikman, 1955; G. D. Smirnov, 1960; Polevoi, 1969; Byrnya and Shcherbakova, 1973; Byrnya, 1974 - 1; Byrnya, 1974 - 2; Polevoi, 1979).

Striking of coins in the 1360's with the name of Shehr al-Djedid is associated with the nomadic existence of the horde of Mamai somewhere between the Dniestr and the Dniepr; later on it wandered away to the shores of the Sea of Azov, where it took to issuing coins with the name of the Horde in the 1370's. Evidently moneyers of Shehr al-Djedid took part in organizing this mintage of the Horde (Yanina, 1977, p. 209).

On the Dniepr in the Zaporozhye area we know of a Golden Horde settlement where a bath-house, a mosque, and a large dwelling have been excavated (Dovzhenok, 1961).

All of these are new steppe cities built in the XIIIth century or the beginning of the XIVth during the Golden Horde period. On all the archeological sites left by these cities there has thus far been failure to bring to light any underlying pre-Mongol culture stratum, although large areas have been laid bare at many of them.

Sharply distinguished from these are the old cities built before the Mongols in the Crimea, at Khorezm, in the lowlands of the Syr-Darya, and in Volga Bolgaria, where traditions of their pre-Mongol evolution were preserved. We have limited ourselves to examination of the new and properly Mongol cities.

The geography of their positioning assumes form as follows: a solid strip along the Volga from its middle course to its delta; the Volga-Don mesopotamia; along the Ural or Yaik; on the lower Don; in the steppe part of the Dniestr-Bug mesopotamia; the Crimean steppe; the sub-Caucasian steppe and a part of the Caucasus piedmont; specific sectors along the courses of the western Siberian rivers - such was the territory on which the Golden Horde built its cities (Yegorov, 1977).

We should point out the fact that in the scientific literature containing references to the work of V. L. Yegorov (Yegorov, 1977) there crops up an idea that the Golden Horde was heavily urbanized, which is obviously a reaction against the old conception of the Golden Horde as a country with a small number of cities or none at all. 100 Golden Horde cities are named, or something close to that. Still, in Yegorov's article some spots are cited where Golden Horde antiquities

in general are encountered, yet by no means cities, of which there were of course considerably fewer.

The geography of the Golden Horde cities is filled out by the Italian maps: Pizzigani of 1367, the Catalan atlas of 1375, and Fra Mauro of 1459 (Chekalin, 1889; Chekalin, 1890). One should remark that for the Volga basin and apparently for eastern Europe in general the information provided by these maps is anachronous and falls behind reality by 50 to 60 years. Thus on the first two maps there are not two Sarais, which reflects a situation before the 1330's. On the Fra Mauro map there are two Sarais, which reflects the actual state of affairs in the second half of the XIVth century (evidently the end of the century, to judge by the explanation to the map, in which there is mention of Timur's campaign of 1391), but not by any means the beginning of the XVth century when, after the devastation of New Sarai, there was again but one Sarai.

Fortifications

A substantial feature of the Golden Horde cities is the frailness or the complete absence of defensive lines around them. At the Tsarevo site a ditch-and-rampart line arises only in the period of dissension and internecine brawling, i.e. in the 1360's. Before that time the policy of centralism and the power of the central authority had obstructed the formation of strong fortified defenses around the cities (Fyodorov-Davydov, 1973, p. 75-76). Al-Omari speaks flatly of the absence of any walls around Sarai (Tiesenhausen, 1884, p. 241). It is interesting that in Central Asia, for example at Tuva in the period of Mongol city-building in the XIIIth century, the cities were built without walls (Kyzlasov, 1965, p. 61).

We have the report of Marco Polo: "In all the provinces of Kitai and Mangi and in all his (Kubilai's) other dominions there are plenty of traitors and disloyal persons disposed to rebel, and on this account it is necessary to maintain forces in every province where there are large cities and many people; to dispose them outside the city, at four or five miles' distance; and the cities are not allowed to obstruct the entry of forces" (Marco Polo, p. 105; Marko Polo, 1955, p. 280). (The latter is a Russian edition - Tr.)

There is also an absence of fortifications at some cities of Khorezm in the Golden Horde period (Shah-erlik, Mizdakhkan), although here there were strong, old traditions associated with stout city fortifications of the pre-Mongol period. At some of them (Shemakha-kala, Yarbekir-kala) the ancient, ruined pre-Mongol walls were not restored in the XIVth century (Vakturskaya, 1963, p. 53).

One may suppose that the requirement of the Mongol authorities that settlements be left open applied not only to captured cities but even to the actual Mongol feudatories established in conquered lands. In this way the khans combatted separatism. Capitals were left open because where there was a firm central authority they did not need other protection than the strong arm of the khans, and peripheral settlements and villas were deprived of fortifications with a view to

nipping possible centrifugal skids on the part of the local elite. The Ityakovskoye townsite is an interesting example of a villa or settlement of the XIVth century in the Mordvin lands. On the site of an old aboriginal citadel with well-preserved walls a Mongol princeling or lord sets himself up, lured by the layout of this citadel, convenient from precisely the standpoint of safety. But in the XIVth century he is obliged to destroy the walls and fill in the moat, and it is only in the XVth century, when the unity of the Golden Horde has been dissipated, that the villa is again built about with a system of stout fortifications (Fyodorov-Davydov and Tsirkin, 1966).

Perhaps at some cities there were indeed rampart lines and moats of a sort that have failed to be noted by archeologists. But just like the shallow moat (below 1.5m.) and low wall of the Tsarevo site and the suggestions of a wall at the Selitryonnoye site, the uncompleted wall and moat at the Vodyanskoye site and the faintly manifested wall at Old Orkhei, all this testifies to an underdevelopment of fortification at Golden Horde cities. As at Karakorum, where the outer wall is weak and can scarcely constitute a serious defense for the city, in the Golden Horde cities the outward fortifications (where they existed at all) performed a function not so much of military defense as of a customs and administrative boundary to the city.

In the mound from the wall of the Tsarevo site no wooden structures have been tracked down save for a vertical post at the northern angle of the site. The skull of a dog was found beneath the wall, perhaps placed there with the magical aim of ensuring protection - a custom known among the Turkic tribes.

The unfamiliarity of the Golden Horde settlement-dweller with fortified cities becomes plain from a conversation had with a Tatar merchant at the walls of Tana by I. Barbaro during his stay at this Italian colony, and jotted down by him. Barbaro asked the merchant, pointing at a tower, "Does that not seem to you a remarkable thing?" The merchant shrugged and replied, "Bah! He who is afraid, let him build towers!" (Barbaro and Contarini, 1971, p. 148).

The enormous area over which the Golden Horde cities were strewn was not uniform in cultural respects. The Dniestr basin and Crimea regions are different from the Volga banks, and the North Caucasus yields a Golden Horde city culture somewhat other than that of Sarai, New Sarai, Ukek, and Beljamen. The areas along the Dniepr also stand out as a special local variant of Golden Horde city culture. We select for further detailed examination the Golden Horde city culture of the lower Volga Basin district - the center of the Ulus Jochi, the domain of the Golden Horde khans - and we shall bring in data on Golden Horde cities of other areas only as comparison material.

CHAPTER III

DWELLINGS, VILLAS, AND PUBLIC BUILDINGS

In Golden Horde cities, dwellings are divided into the following groups which reflect very well the social status of their inmates:

Dugouts

The lowest step on the social ladder was occupied by slaves and semi-slave dependents. We presume that they lived in large rectangular (rarely round or oval) dugouts without heating systems. These dugouts had earthen bunks, so-called sufas, along two or three walls, and a narrow ladder. On the floor of such a dugout there was a layer of ash and coals from braziers with which the dugout was heated. A free individual family of even the poorest sort would not have consented to live without oven-stoves under the harsh conditions of Volga winters. One may think that these dugouts were a sort of barracks for slaves, where they were locked up after work and where they were given only braziers for heating. Some of these dugouts have walls lined with adobe bricks (Illustration 3, figure I).

At the Tsarevo site such a dugout was exposed alongside a rich house ("the house with the yurts"), where it apparently formed part of that rich house's complex as living quarters for slave-servants. The same sort of dugouts were excavated among the dugouts in the southern suburbs and in the central part of the site, where they fell to the very earliest construction period, before the springing up of villa planning - that is to say, before the 1350's (Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, p. 96, 133, 150).

The dimensions of large dugouts without heating installations are as follows: (meters)

Sites

	Tsarevo			Vodyanskoye		Selitryonnoye		
						No.1	No.2	No.3
Depth below ground level	1.5	1.9	1.3	0.7	1.9	2.2	1.9	1.6
Length including wall thickness	6.3	5.4	4.0	4.4	4.9	6.0	8.0	5.1
Width including wall thickness	4.0	4.8	3.0	4.0	4.1	3.3	4.4	4.4
Total area	11.6	17.4	12.0	17.6	11.4	19.8	32.2	22.2
Floor area	5.6	6.8	5.5	17.6	3.6	19.8	32.2	15.0

In the cases where large dugouts are found separately they ordinarily fall to the early period of the city's existence and can be assigned among the dwellings of the building workers, but in the complexes of rich villas they fall to the late period of the city's existence. One may suppose that semi-slaves disappear as a considerable component of the city's population over the course of time and become converted into the mass of the free urban plebs, and that they are preserved as a class only on the rich villa as servants and laborers.

Another sort of dugouts is represented by the dwellings of individual families, but ones of free or semi-free complexion. Ordinarily they are somewhat smaller in size, rectangular or oval in plan. These dugouts usually have gamma-shaped or pi-shaped sufas along two or three walls, or two sufas down the long walls cut into the earth. Sometimes a narrow sufa is made along one wall - at Tuman-Tyube (Shnaidshtain, 1979); sometimes along all four walls - Shareny Bugor (Yerzakovich, 1973). These dugouts had heating systems of kan type (Illustration 3, fig. III). Kans were arranged in this way: in the sufa there were made, along one wall, double horizontal smoke-ducts which led smoke into a vertical chimney in a corner of the dugout; the chimney was cut into the wall and was usually blocked off with bricks set vertically on edge, one on top of another. The dugout at Shareny Bugor had single-channel kans. The oven, round or rectangular, was set at the other end of these smoke ducts. Sometimes the oven and the horizontal smoke-duct were set in the floor of the dugout. The smoke-ducts were covered over with burned bricks lying flat. The smoke-ducts and the ovens of the kans were usually faced with burned bricks, but there do exist dugouts with kans, cut into earthen sufas, that lack these linings - at Tuman-Tyube and Shareny Bugor. A stepped entryway was installed, more rarely a mere inclined descent without steps. Sometimes the walls were covered with stuccoing of white lime (Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, p. 95-9[illegible], 140, 146; Yegorov, 1970, Illustration 9, fig. 1-3).

The dimensions of dugouts of this sort at the Tsarevo site (in meters):

Depth below ground level	1.3	1.2	1.1	1.4	1.3
Length	3.2	3.0	4.2	4.5	3.0
Breadth	2.8	2.4	3.1	3.3	3.0
Overall area	9.0	7.2	13.0	15.0	9.0
Area of floor	2.5	0.8	----	11.2	9.0

Dugout No.I (Illustration 1) is of particular interest. It was found back of the wall of a farmstead, on the Selitryonnoye site, where there was a potter's shop (dig No.II). During the first period of its existence this was a large rectangular dugout without kans but having a small hearth behind a brick fire-guard by the entrance. Thereafter a new sealing of the floor with clay was carried out, and there is

considerable over-building. Gamma-shaped sufas were set up along two walls. Two tandyr ovens (modern Pakistanis and Indians pronounce this "tandoor," and the device is familiar in their restaurants - Tr.) were built upon them - for the baking of flatbread - and within them were laid the horizontal channels of smoke-ducts which ended in a vertical chimney at a corner of the dugout. In the next period the sufa was made wider and was laid with burned bricks, and the floor was again sealed with clay. The gamma-shaped sufa was converted into a pi-shaped one (along three walls). An open hearth of burned bricks was made on the floor beside the new sufa. In the following period the sufas are further widened and built upon; in the last period the floor was built up almost to the level of the sufas.

The tandyr was a round oven which had a thick fired-clay wall with incisions in the form of slanting or vertical and wavy bands, or else bands in oblique reticulation, produced through the application of a toothed stamp. Tandyrs had the top open; through this opening, after heating up, the flat-cakes of raw dough were slapped against the mortared inside lining of the tandyr. During baking the oven was covered over. Openings were made in the lining to connect with horizontal flues and the heating duct. Fragments of burned brick were placed under the tandyr lining. Tandyrs were made individually within the house, or were purchased and installed in the kan system. Cases are observed where old tandyrs are replaced by new ones in the same oven. Tandyrs are of 45-65 cm. diameter. There are small tandyrs with a diameter of about 35 cm. The bottoms of tandyrs were ordinarily laid with fragments of burned brick.

Dugout No.2 (Illustration 1), lying side by side with dugout No.1 and the Selitryonnoye site, was oval in plan. It had a wooden threshold, lying upon stones at the entrance. It is entirely likely that to begin with this dugout lacked an oven. Later it was improved upon and assumed the following appearance: upon entering the dugout there was to one's left a cellar in the form of a square pit. On its floor the cellar was lined with adobe bricks, and it was sealed inside with clay and whitewashed. It had a wooden top or lid. A pi-shaped sufa along three walls was laid with burned and adobe bricks along its edges. When the original shorter sufa was extended there was built into it a rectangular oven (50 x 60 cm.) of bricks set on edge. Horizontal smoke ducts were installed in the sufa, leading into a vertical chimney cased in slabs of limestone. The walls of the dugout and sufas had been repaired and reinforced with brick, planks, and beams at many points. Small remodellings of the sufas and the kan are observed (Illustration 2, figure I).

Dugout No.3, located alongside dugout No.2, was of rectangular shape. At the point where it joined the dugout proper, the stepped entryway was laid with burned and adobe brick. Some steps had treads of slabs of white stone. Originally an earthen sufa, laid with burned and adobe brick, had been left along one of the long walls. Later a new sufa was made along another wall, and a round oven and two channels of a kan which led to a vertical chimney were installed in it. The chimney was set up in a corner of the dugout and was cased in burned bricks set on edge one upon another.

Just as in dugout No.1 and probably No.2, dugout No.3 (Illustration 1) at first lacked heating ("slave quarters") but was later made over into a dwelling of an individual free family with a kan-type heating system.

The first periods of the functioning of these three dugouts fall to the 1330's - 1340's, the following ones to the turn of the 1350-1360 period.

A large rectangular dugout was excavated on the Vodyanskoye site. The walls of the dugout where faced with adobe bricks of large dimensions in a single breadth. The steps of the entryway had to either side massive walls built up of adobe bricks. The inside measurements of the dugout were 3.8 x 3 m. The walls were stuccoed. Originally a broad sufa had been arranged along the wall opposite the stepped entryway; narrow sufas ran along the flanking walls. Between the sufas the floor was paved with adobe bricks and in its center a toshna, a washing sump consisting of a pit in the floor beneath which there was installed a conical reservoir lined with fragments of burned and adobe brick and with stones, where water accumulated and was drawn off to the level of a water-absorbent soil stratum. The toshna was customarily covered either with a brick with an opening in the center, or with a stone (sometimes marble) slab having star-shaped ornamentation (Illustration 62, fig. 2), again with a hole in the center (Ballod, 1923 - 1, Illustration 5, figs. 1, 3). In the second period of the dugout's existence it was equipped with a heating system in the form of an oval oven set into a sufa. The sufas themselves were built in and the walls were again whitewashed. The period of functioning of the dugout falls to the 1330's-1350's (Yegorov and Fyodorov-Davydov, 1976, pp. 117-121, figs. 10, 11, 12).

Thus this dugout, like the Selitryonnoye ones described above, demonstrates a remodelling of large dugouts without ovens into dugouts with heating systems. Through the example of these dugouts we may perhaps be observing a gradual liberation of the slave population of the Golden Horde cities and its conversion into a free and half-free urban plebs.

A special large dugout was brought to light at the Tsarevo site in the complex of the rich "house with the yurts" (Illustration 113, fig. 1, 10), with a smallish sufa in a corner. The sufa had a round oven with a short horizontal smoke duct entering a vertical chimney in the corner of the dugout. This did not have a stepped entryway, but was joined by a corridor to a small sunken courtyard of this rich house. This dugout was intended, as the ones without ovens were, for servants, the menials of the villa (Illustration 3, fig. II).

At the same villa there was exposed a large dugout (Illustration 3, figure IV) with sufas along three walls and an oven in a corner linked to a vertical smoke duct cut into the sufa (Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, p. 120, 123; Yegorov, 1970, Illustration 9, figures 5, 6).

These two dugouts are distinguished from individual poor peoples' dugouts through absence of heating installations and through somewhat

larger dimensions (4.8 x 4 m.; 4 x 6 m.). But they are also distinguished from the dugouts of slaves since they have ovens. Evidently these are dwellings specifically for villa servants. Such dugouts are unknown elsewhere than at rich villas.

A large oval dugout with low earthen sufas along all four walls, with a tandyr and a small open hearth having no kans, was found at the third villa in the "three villas" district in the eastern suburb of the Tsarevo site (Illustration 113, fig. I, 13). It was the workshop of a gold-founder (Fyodorov-Davydov, Vainer, and Guseva, 1974, p. 108; fig. 10, 12).

Small dugouts without sufas and having ovens with vertical chimneys were discovered at Shareny Bugor (Yerzakovich, 1973).

The dugouts showed no traces of wooden wall construction elements. One small heavily damaged dugout excavated at the Tsarevo site had in the center of its floor a trace of a vertical supporting post (Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, p. 146; Yegorov, 1970, Illustration 9, fig. 4). The roofings of the dugouts had apparently been of wood.

Houses Partially Sunk Into The Ground

These houses had wooden walls faced with clay. The tamped clay floor was sunk about 40-55 cm. Around it there were sufas along all four walls. They were trimmed with burned or adobe brick and had an oven, a kan, and a vertical chimney in a corner, ordinarily faced with fragments of burned brick. An inclined or stepped entryway had been cut into one of the sufas. Some ovens were at the same time tandyrs for baking flatbread. They were joined together by means of horizontal smoke ducts. In plan they were of round shape, with a diameter of 40-55 cm.

The dimensions of houses of this sort were as follows:

Length	3.5m	5.4m	4.9m	--	--	--
Breadth	3.2	3.4	3.5	--	--	--
Breadth of sufa	1-1.2	1.5-2.2	1.5-1.6	--	--	--
Overall area of house	11.2	18.4	16.8	--	--	--
Area of floor	2.0	0.25	3.0	2.2	3.6	1.5

These houses were found at one of the villas (the third) in the southeastern part of the Tsarevo site, where they were intended as living quarters for servants and villa menials (Fyodorov-Davydov, 1981). But they also exist in another part of this site (Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, p. 74, fig. 3).

In the central part of the Tsarevo site (Illustration 113, fig. I, 6) there was also revealed a large rectangular dwelling with wooden walls, sunk 35 cm. into the earth. The dimensions of the dwelling were 6.9 x 4 m. The floor was partially laid with fragments of burned brick. On this floor stood an oven of adobe brick. A shelf projected

from one of the sufas, and on it was a large tandyr of 1 meter diameter. In one of its corners the dwelling had an entrance in the form of an uncovered way (Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, p. 96-97, fig. 6).

Now let us examine above-ground houses, first those of one room, then those of more. In the Golden Horde all ground-level houses, even very large ones, were erected without foundations (i.e. without dug-in foundations - Tr.)

Houses With Wooden Walls

This class of houses apparently belonged to the poorer part of the city's population, and also to servants and dependents at villas (Illustration 5, fig. VII).

Where it has been possible to track them down, the wooden walls were of the following construction: frames were made of squared beams and vertical planks were set into mortises in these (Yegorov and Poluboyarinova, 1974, p. 58). The interior installations of these houses, built up of adobe brick, preserve well. There are pi-shaped or more rarely gamma-shaped sufas, the faces of which are low brick walls and the filling clay, rubble, and brick fragments; and there is an oven with horizontal smoke ducts, in the sufa along one of the walls. These ducts led to a vertical pipe in a corner of the house; this is ordinarily not preserved. The sufa was raised above the floor of the room by a usual 40-50 cm. Sometimes the outer side surfaces of sufas were covered with white stucco. The horizontal smoke ducts were covered on top with burned bricks laid flat. The floors are usually earth daubed with clay. The ovens were either rectangular or round, as in the dugouts; they were topped on the "false arch" principle, i.e. each upward course of bricks projected a little beyond the ones below (Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, p. 77, 151; Fyodorov-Davydov, Vainer, and Guseva, 1974, pp. 90-103).

In some cases the wooden wall was made in the form of a wattle of withes which was then daubed with clay and reinforced by vertical poles and posts. The clay daub of the walls was stuccoed. A threshold consisting of a plank was set in the entrance doorway (Yegorov and Fyodorov-Davydov, 1976, p. 138).

Wooden walls of beams lying against stakes pounded vertically into the ground have been identified. These are sometimes in two rows. In this wooden house (on the Mechetnoye townsite) underground heating was found, in the form of a horizontal smoke duct beneath the brick surfacing of the floor (Ballod, 1923 - 1, p. 29, fig. 11).

Another wooden house on the Mechetnoye site had two gamma-shaped walls built up of burned brick before the entryway - they constituted an outdoor vestibule or bordering in front of the entrance (Ballod, 1923 - 1, pp. 33-34).

The dimensions of houses of this sort were as follows (in meters):

Length	4.6	4.9	5.0	6.0	6.0	6.0	7.0	6.4	4.6	4.5
Breadth	4.6	4.9	5.0	4.0	4.0	5.8	6.0	6.0	4.0	4.5
Breadth of thwartwise sufa	1.5	2.0	2.3	2.0	1.5	3.0	2.8	3.9	0.9	2.3
Breadth of lengthwise sufa having kan	1.2	1.0	1.3	3.0	1.0	1.0	1.7	--	0.9	1.2
Breadth of second lengthwise sufa	--	1.0	1.3	1.0	1.5	1.9	1.9	1.8	1.4	1.0
Total area of house	21.2	24.0	25.0	24.0	24.0	35.0	42.0	38.4	18.4	20.2
Floor area	12.0	12.0	12.0	2.3	5.5	14.0	23.5	5.5	7.8	10.0

A special kind of wooden house was revealed in the southern suburbs of the Tsarevo site - the so-called "house on the dune" (Illustration 113, fig. I, 11). Only one of its walls and the central part of the house lie exposed. The wall was of horizontal planks resting against vertical piles, driven into the ground. In the central part an interior enclosure was set up in the same way, with a sufa and two kans. The length of the outside walls has not been determined, but it was not less than 16 meters, so that the dimensions of this house are considerable. Probably this house constituted a warm room with a sufa and kans, surrounded by corridors running between its rooms and the outer walls of the house. The vertical piles were indispensable as the house was built on a sand dune (Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, p. 155-160, figs. 29, 30); Yegorov, 1970, p. 175).

Houses With Wooden Walls and Socles

These houses are analogous in all respects to the houses simply having wooden walls. A few courses of adobe bricks (sometimes including burned ones) in a single breadth, or else in more breadths, of bricks mortared with clay were laid beneath the wooden structure. This latter type is particularly characteristic for the Vodyanskoye site.

The walls above the socle were erected on the so-called carcass or cradle principle. This method of laying consisted in first setting up on the adobe brick basis a frame of wooden verticals which were the supporting members and which bore a covering. Wooden beams remaining from such construction and having mortises for the vertical posts have been found several times. After this the spaces between the uprights was filled with bricks set aslant. In other cases the frames were

sheathed with planks. Interior structures were set up in adobe brick and were entirely analogous to those in houses having wooden walls but without socles. The outward surfaces of the sufas was often whitewashed with a coating of lime. The height of the socles was approximately 30-50 cm. (Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, p. 142-143, fig. 20; Fyodorov-Davydov, Vainer, and Guseva, 1974, fig. 4, 6, p. 92, 99-101; Yegorov and Fyodorov-Davydov, 1976, p. 121-122, p. 135, fig. 10, 11).

The usual kans with ovens or tandyrs were installed in the sufas. Sometimes a tandyr without smoke ducts was set up in the middle of a sufa. A depression lined with fragments of burned brick was sometimes made around them. The feet were lowered into this depression when people were sitting around the tandyr on the sufa.

In some cases the floor was laid with bricks, sometimes on lime mortar and sometimes with the use of bricks covered with a glaze (blue).

The brick-laid floor was often divided into rectangular sectors by means of wooden beams set between the bricks. Floor coverings of planks are encountered.

A toshna washing-sump was set in the floor. The brick floor-laying around it was sometimes made more elaborate through supplementary inserts of bricks, angled fragments set on edge, half-bricks, and the like.

The toshna is found with a brick absorption reservoir of the type which has been discovered in some dugouts and in houses without socles but with wooden walls. A toshna of another type, known from houses with socles, had as a reservoir a large jar tuned neck downward and with its bottom removed (Fyodorov-Davydov, Vainer, ar Guseva, 1974, p. 100).

Where the entryways can be traced, they were placed either in the middle of a wall unencumbered with a sufa, or to one side by the furnace of the kan.

Dimensions of houses of this sort are as follows (in meters):

	With stone socles						With brick socles				
Length	7.0	4.7	4.2	3.3	5.5	6.1	6.0	6.0	6.2	4.5	6.8
Breadth	6.0	4.0	4.0	3.0	5.0	5.5	6.0	5.0	6.2	4.5	6.7
Breadth of thwartwise sufa	3.0	2.0	1.5	1.5	2.5	2.2	3.0	1.7	2.2	2.2	5.0
Breadth of lengthwise sufa having kan	1.5	1.0	0.7	0.7	1.0	--	1.0	--	1.4	1.0	1.0
Breadth of other lengthwise sufa	1.2	1.5	0.7	0.7	1.0	--	1.2	--	1.4	1.0	1.9
Overall area of house	42.0	19.0	16.8	10.0	27.5	33.6	36.0	30.0	38.5	20.2	45.6
Area of floor	14.0	5.0	3.0	4.0	7.5	20.0	12.0	11.0	22.0	4.0	11.5

Some houses with adobe brick socles had a single broad sufa in the middle of which there was the kan, so that the furnace stood out beyond the edge of the sufa, and a vertical chimney was let into the middle of the wall (Fyodorov-Davydov, Vainer, and Guseva, 1974, p. 102, fig. 5).

In one house there was an adobe fireguard setting apart the small hearth with its stove and its gamma-shaped smoke ducts in the sufa (Fyodorov-Davydov, Vainer, and Guseva, 1974, p. 100-101, fig. 6).

At the Vodyanskoye site a house was uncovered that had a double socle of fired bricks and a row of small stones inside an adobe wall (Illustration 4, fig. III). In the sufa opposite the one having the kan, an adobe block had been made that contained a rectangular stove without smoke-ducts. Alongside in the floor was a large square pit with an earthenware jar filled with ash and coals from the stove standing beside it. At the entryway, inside the house, there was a brick paving (Yegorov and Poluboyarinova, 1974, p. 50-53, fig. 7-8).

Houses with basis walls are the dwellings of people standing higher on the social ladder. These structures often make their appearance as the main houses in complexes of small villas, but are also encountered in the ordinary plebeian parts of the Tsarevo and Vodyanskoye sites, although they have features of a richer way of living - glazed brick on the floor, often tandyrs at the ovens, and the like. Such houses may also be found as dwellings of villa personnel, but at comparatively rich holdings (Illustration 5, fig. I, II).

Houses With Walls Entirely of Adobe Brick

These houses have walls consisting of two to four breadths of adobe bricks, without foundations. At the Vodyanskoye site the usual socle of broken stones was laid to a height of up to 50 cm. beneath the brick walls (Yegorov and Poluboyarinova, 1974, fig. 12). Such walls can carry a heavy load of cover and could be of considerable height. The interior fittings of the houses were entirely analogous to the structures of houses with brick socles and wooden walls (Illustration 4, fig. II). In some cases the houses had only two or three walls of brick, and the others were of wood. Passages were either at the side, by the stove, or beside the sufa opposite, or in the wall having no sufa (Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, p. 81-84, 132, fig. 4, 12).

Houses of this sort had the following dimensions (in meters):

Length (outside)	5.4	5.0	6.0	5.0	6.0	7.5	7.5	7.0
Length (inside)	3.7	3.6	5.7	4.3	4.0	5.0	5.0	5.2
Breadth of thwartwise sufa	2.0	1.9	2.0	1.2	2.2	4.0	4.0	3.0
Breadth of lengthwise sufa	1.0	1.3	1.0	1.1	---	---	---	---
Overall area of house	20.0	18.0	34.0	21.5	24.0	37.5	37.5	36.4
Area of floor	9.0	7.0	14.0	7.5	13.0	15.0	19.0	17.0

As we see, the floor area is a great deal smaller than the area of the house as a whole.

Two identical houses with thick walls of adobe brick that were excavated at the Vodyanskoye site (Illustration 113, fig. II, 7) had in addition to the usual sufas and tandyrs also smaller compartments closed off by cradle-walls, with passages through the centers of these walls. In these compartments sufas with tandyrs were installed to the left of the entrance, and opposite these there were storage bins for grain, separated by a stone wall. To either side of the entrances

there were structures gamma-shaped in plan, made up of cradle-walls - perhaps wooden stairways leading to a second storey of these houses were placed within them. Both houses were symmetrical to each other in their main details; they were joined together by a wooden boardwalk lying on heavy wooden beams beneath which stones had been laid. The houses had adobe walls faced with stone blocks in their lower sections. One of the houses had a supplementary outside facing of its walls with a thickness of burned bricks. The dimensions of the house were 8 x 4.5-5 m. (Mukhamadiyev, 1974).

The houses with thick adobe walls belonged to the higher strata of society. This is attested by the fact that they constitute the main houses of the villas in the aristocratic district (the southeastern one) at the Tsarevo site (Illustration 113, fig. I, 14).

Houses of a Number of Rooms, Constituting a Simple Assemblage of Single Room Houses

Dwelling structures in the Golden Horde cities along the Volga have a tendency to join together in pairs and to form symmetrical units. In a number of cases identical dugouts are paired. In some villas two main houses (Illustration 5, fig. I) also form a symmetrical conjunction (Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, fig. 19, p. 140; Mukhamadiyev, 1974, p. 80 ff., figs. 1,3; Fyodorov-Davydov, Vainer, and Guseva, 1974, fig. 3). Sometimes one house was built hard up against another so that one got a house with two, three or even five rooms, each of these having its own entrance. Ordinarily it was either wooden houses with socles that were placed together, or else wooden houses without socles.

This tendency led to their coming to build at a single time multi-room houses consisting of rather mechanically conjoined single-room houses (Illustration 5, figure VII), each with its own entrance (Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1976, fig. 12; Fyodorov-Davydov, Vainer, and Guseva, 1974, figs. 3-6; Yegorov and Poluboyarinova, 1974, fig. 12, p. 58-60; Ballod, 1923 - 2, p. 49-51). Such were the houses built up against the large rich multi-room houses brought to light at the Selitryonnoye site (digs VIII and XI). For these composite structures it is characteristic that one house may have differing walls - wood, and adobe brick.

A typical example of these structures might be the two houses with stout walls of adobe brick at one of the villas (the third) in the southeastern part of the Tsarevo site (Illustration 113, fig. I, 14). They had four rooms each. In the first house three rooms had gamma-shaped sufas, and kans with rectangular or oval ovens. Entrances were separate ones into each room. After this house had been functioning for some time, thresholds of adobe brick were installed at some of the rooms. Here and there in the rooms were niches, and some supplementary adobe-brick structures and pits before the ovens. A fourth partitioned area of this house lacked one brick wall. Probably that wall had been of wood. In this compartment there were sufas along one wall, with a kan and a tandyr. The second house had compartments that again had individual entrances (all of these were later supplemented with adobe-

brick thresholds). They had the same sort of gamma-shaped sufas with rectangular ovens and kans in three rooms, and a tandyr-oven and a kan in the fourth (Fyodorov-Davydov, 1981). Another house of the same sort, at a different villa (the second) in the southeastern part of the Tsarevo site, again with stout walls of adobe bricks, constituted a joining together of three rooms. In each there were once more gamma-shaped sufas with ovens and kans. The partitions between the rooms were set up on the cradle-wall principle (Mukhamadiyev and Fyodorov-Davydov, 1978, pp. 96-98, fig. 5). The areas of the individual rooms of these brick houses range from 13 to 18 square meters, attaining 25 and 28 square meters in two cases.

At the third villa in the eastern suburb of the Tsarevo site a multi-room house was excavated that had wooden walls, an adobe socle along one wall, and an adobe-brick facing on another. In two rooms there were kans, in one an ordinary pi-shaped sufa. The dimensions of the rooms were 5.8 x 6 m.; 4.8 x 5 m.; 4.8 x 3.7 m.; and 4.1 x 3 m. (Fyodorov-Davydov, Vainer, and Guseva, 1974, fig. 10).

All these multi-room houses at villas were dwellings of villa personnel (servants, administration, security).

The areas of multi-room dwellings of this sort (in sq.meters):

	Wooden			Adobe brick			
Number of rooms	2	4	5	2	3	4	4
Overall area	49	79	105	72	59	73	57

Large Multi-Room Houses

These houses constitute the dwellings of the upper crust of Golden Horde society. Let us examine them in the order of increase in their size and in the richness of their interiors.

A large house, apparently the very center of a considerable villa, was uncovered in the southern suburbs of the Tsarevo site ("the house with the yurts," (Illustration 113, fig. I, 10). Its basis was a large building of 20 x 10 m., having three thick walls of adobe brick and a fourth one probably of wood. In one of the long walls a broad passage had been cut, bordered by gamma-shaped low walls of a single breadth of adobe bricks. In this enclosure there was nothing but a pit and a small kan in a corner. The floor had evidently been of planks. Three enclosures constituting separate houses with their separate entrances had been built up against this one. Two of them, having dimensions of 7.5 x 5 m. each, lay at the axis of the main enclosure and had gamma-shaped sufas and kans along the walls. In one of them there was a floor paved with burned bricks; in another there was a second kan in the middle of the sufa. The third enclosure was a house of 7 x 5.2 meters, and it lay flanking the entrance, to the right. It too had a gamma-shaped sufa, in which there were two kans. All three of these adjunct house-enclosures had only two massive brick walls each. Their other two walls were of wood (Fyodorov-Davydov,

Vainer, and Mukhamadiyev, 1970, fig. 12, p. 114 ff.).

At a second villa in the southeastern part of the Tsarevo site (Illustration 113, fig. I, 14) its central house was brought to light. It consisted of a group of enclosures arranged around the perimeter of an interior courtyard of 5.8 x 6.8 m. All the structures had wooden walls upon adobe brick socles (Illustration 5, fig. VI). The core of the building we are describing consisted of two houses. One of them measured 6.4 x 6.2 m. and had a pi-shaped sufa with two kans - one along a wall, the other in the middle of the sufa with gamma-shaped smoke ducts. Both kans had tandyr ovens. The second house, measuring 5.3 x 4 m., also had wooden walls on adobe socles. In it was a pi-shaped sufa with a kan along the sufa. These houses were positioned at opposite corners of the small court and were joined together by small premises evidently for storage that lay around the perimeter of the court. Later on the whole complex was completed with still a further house at yet another corner of the same interior courtyard. It had a pi-shaped sufa with two kans - along the wall and at the midpoint of the sufa. In the enclosure at the fourth corner of the little courtyard a pi-shaped sufa with two kans was installed; these had tandyrs (Mukhamadiyev and Fyodorov-Davydov, 1978, p. 90-94). One should note the fact that the central house has been built with a definite tendency toward symmetry, as has been remarked above. Constructions on it during period II cap off all those elements of symmetry that were laid down in the initial planning, and the whole edifice becomes symmetrical with reference to a meridional axis. The overall dates for the existence of this house are 1350 to the 1370's. In a dilapidated state it perhaps survived until the Timur devastation of 1395.

Alongside this villa a third was partially excavated. Its central house was of the following construction during the first period of its existence: its walls, 70-90 cm. thick, were made up of three and of four breadths of adobe bricks. The walls were partly faced with burned bricks. At one of its angles the house had a pre-entryway aivan*

> * The aivan is a verandah, terrace, or porch, perhaps unroofed, but demarcated at the sides by low walls - Tr.

niche, paved with fired bricks. On this floor small gamma-shaped walls were erected, marking off the entryway. Probably there was before the aivan a walk made of fragments of fired brick on a sand fill. On the inner sides of the walls there was lime-mortar stucco. There were two rooms in the house, separated by a wooden wall: beyond the entryway there was an enclosure of 6 x 4.8 m. without installations, with a floor of fired bricks; a second enclosure, of 8.2 x 8.8 meters, also had a floor of fired bricks, and a sufa faced with white stucco along one wall, with a projection at the center. A tandyr-oven and a kan were installed in this projection. Another oven was also installed in the sufa, a rectangular one, and again a kan. Before the rectangular oven there was a depression in the floor; it was lined with halves of fired bricks, and there were a few blue-glazed bricks. The overall dimensions of the house were 15.2 x 10 m. (Illustration 3, figure V). This house dates to the 1350's. Afterwards it was broken down and upon

its ruins and foundation walls a new house of fired brick was made, which lasted until the mid-1360's. First stout walls about 70-90 cm. thick were made, enclosing and cutting across the structure of the earlier house; then rubble masonry was strewn between the walls, and floors and interior installations of fired brick, which have almost failed to survive, were set up on this. The planning of the house of the second period is entirely new (Illustration 3, figure VI). The house is a great deal larger (24 x 16.8 m.). In the middle of its facade wall it had an aivan, evidently an entryway one, and two small half-columns at the angles, to either end of the facade wall. A series of rooms leads off the aivan, dividing the whole house into two sections. Both sections are demarcated by walls into 11 non-uniform and non-symmetrical rooms. The walls were faced with white stucco and bore mural paintings in pigments of brown, red, and blue shades (Mukhamadiyev and Fyodorov-Davydov, 1970).

Another rich edifice excavated by V. Ballod at the Selitryonnoye site had wooden walls and constituted a house of trapezoidal plan. One room had an enormous sufa with a large oven and leading off from it a two-flue kan which also had a special single-flue smoke duct of complicated layout; the kan exited into a vertical chimney. Apparently there was also in the sufa a second oven with a single flue also leading into the same vertical pipe. The floor was paved with fired bricks on a lime-mortar fill in which there lay a wooden joist. The remaining rooms had no heating systems and had earth floors. Some of the partitions between rooms were of wood; one was of adobe bricks. The dimensions of the room with the oven and the kans were 9.8 x 10.8 m; the other rooms were 1.8 x 10.3 m.; 10.3 x 4.7 m.; 2.5 x 9.7 m.; and 3.6 x 11.6 m. The enclosures had stuccoed walls with mural paintings in pigments of various colors. The house functioned as a wealthy residence in the 1330's to the beginning of the 1360's, but then it went into a decline and potter-artisans lived in it, in whose train there has remained a store of unused mosaic units that had been prepared for use in making kashi ceramic ware (Ballod, 1923 - 2, fig. 22).

At the Golden Horde settlement at Zaporozhye on the Dniepr a large multi-room house of adobe and fired brick and partially of stone, with bases under the bearing walls and with small contoured towers at the angles, has been brought to light. Its dimensions are 14.5 x 25 m. There was a living-quarters bloc in the western part. It contained three rooms with pi-shaped sufas, with ovens and kans built into them, including one with an oven at the midpoint of the sufa and a double flue arched like a bow to carry smoke off to one of the corners of the room. One of these rooms was paved with stone slabs. Passages led into these rooms from a vestibule which was also heated by a kan but which lacked a sufa. The eastern part of the house consisted of a large, empty hall of 8 x 12.5 m., not intended as living quarters, but having installations that have not been understood - chambers in the corners which perhaps set off the northern and southern passages into this hall (Dovzhenok, 1961, p. 187-190).

At the Selitryonnoye site we have excavated the large central house of a villa (dig No. VIII). Its principal exterior walls (north and south) were made of large-size adobe bricks and were 0.90 - 1.05 m.

in thickness (Illustration 6). The overall dimensions of the rectangular house were 23.8 x 24.2 m. In the middle of two walls facing each other (the north one and the south one) there were symmetrical aivan-niches with gamma-shaped sufas to the sides of passages made through the inward ends of the aivans. The passages led from two sides into a central hall (No. 5) of 14.8 x 6.7 m. After the visitor, passing through the passage in the southern aivan, entered this hall, he came to a raised platform, from which he then had to descend to the brick floor, bordered to either flank by narrow strips of brick with planks placed upon them. In the center of this floor there was a basin about 1 meter deep, with low walls and a bottom made up of burned bricks bonded with lime mortar. Water entered the basin through a channel lined with burned bricks which led straight along the central axis of the hall beneath the paving of the floor and beneath the platform. Farther north the visitor saw another raised platform upon which a square elevation surfaced with burned bricks had been made. A baldaquin hung above this elevation on four posts. The channel leading water out of the basin ran northward under the floor, curving around this elevation. To either side of the elevation there was a passage, and one could leave the hall through a central passage and an aivan. One must imagine this hall on days of solemn ceremonies and receptions, with the master of the house sitting under the baldaquin on the elevation and the people of the house and the guests standing around the basis in the hall and sitting along the walls!

To either side of the central hall there were two large but entirely empty enclosures (No. 3 and No. 6). The western one (No. 3) was paved with burned bricks on a sand fill, and it was connected with the central hall by a passage. A second passage led from this enclosure to the open air. Thus this room did not communicate with other premises than the central hall. The eastern enclosure (No. 6) was also paved with burned bricks and had one passage connecting it with the central hall and another passage through which one might pass into the adjoining living quarters (No. 7).

In that room a gamma-shaped sufa with a kan had been made along a wall. In addition to the passage from enclosure No. 6, this room had two others. Through one of them one entered the adjoining enclosures, also living quarters (No. 8); and through the other, one could go outdoors. In enclosure No. 8 there was a pi-shaped sufa with a kan along the wall. From room No. 7 one could exit by the passage into room No. 8, and from there, by a second passage in it, to the central hall. Thus rooms No. 6, 7, and 8 constituted a unified bloc of rooms connected with the central hall through two passages, with each other by two passages, and with the courtyard of the villa and its enclosures by one passage. The enclosures were apparently intended for villa personnel.

A third bloc of enclosures commenced with a small interior courtyard (No. 2) with seven columns on brick bases; these supported a shed along the walls. It was entered from the central hall by means of a passage. After traversing this small courtyard one could arrive through another passage at a small dwelling room (No. 1) with a pi-shaped sufa and kan having horizontal flues gamma-shaped in plan. Through another passage in the outside wall one could depart from this

room to the outdoors. If one entered the little courtyard from the central hall and turned right, one could use a third passage of this courtyard to enter a storeroom (No. 4) in which there were no fittings save pits, one of which was covered over with wooden planks. So this bloc too had two exits - into the courtyard of the villa and into the central hall, and its enclosures were connected with each other by passages.

All the passages were ones sidelong at walls - see page 49 (as in other large houses), and they had adobe brick threshholds. The walls of all enclosures except the small interior courtyard (No. 2) and the storeroom (No. 4) were daubed with clay and stuccoed with white lime mortar.

That is what this large house was like in the first period of its existence, approximately at the middle of the XIVth century. After that a goodly number of remodellings were carried out over a period of some 20 to 30 years.

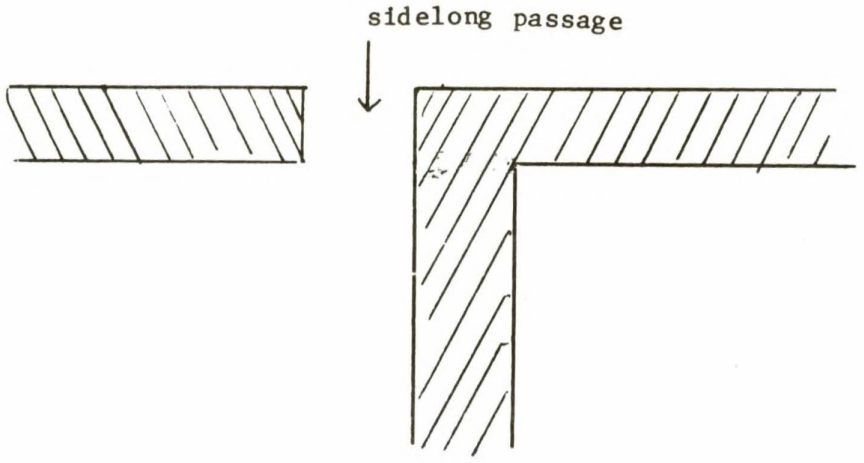
Upon analyzing these remodellings, which affected all the enclosures of the house, one can perceive that as a result thereof the living space was sharply increased. In the process each half is converted into a dwelling room with sufas and kans. The enclosures connected only with the central hall are separated off from the old blocs - both parts of enclosure No. 3, first the western one; later the northern part of enclosure No. 6, enclosures No. 1 and 2. Some rooms remain connected only with the outside courtyard (both parts of enclosure No. 4). The eastern part, and then the southern part, of room No. 6, and also enclosures No. 7 and 8, continue to be connected by passages on the old principle: both with the central hall and with the outside courtyard. This passage leading to the outside runs directly into a multi-room house for servants and villa people; it was built just at the start of all these remodellings. It was precisely on this account that a passage was left in the outside wall.

It is characteristic that throughout all these remodellings the principle of placing these passages so that they should work out to be ones "sidelong" at a wall was maintained.

How should one explain all these remodellings? Evidently some part of the house's community continues to live in such a way that it preserves the connection of its rooms with the central hall. Another part of the community completely isolates its quarters from the hall. One may suppose that the central hall still functions as a sort of incorporation of the unity of this whole extended family group which is falling apart into a number of independent nuclei. The central hall is not subjected to remodelling.

Soon, apparently in the 60's and 70's of the XIVth century, there ensues the decline of the house and its central hall, that is to say of the whole family group. The basin becomes filled with rubbish. In enclosures 3, 6, and 7 the floors are markedly raised and new sufas with kans are built upon the new level. Rooms No. 6 and 7 become isolated from enclosure No. 8 and thus from the central hall, and they retain the only exit in the outer wall of the house. During this

The author explains the term "sidelong at walls" through the drawing below:



Thus the "sidelong passage" goes through one wall of a room at the corner made by it with another wall erected at right angles to it and separating that room, 1, from another room, 2.

period some sort of new people live in the ruins of the house. In the 1380's and 1390's there comes about the utter ruin of the house and of the villa, the terrain of which is given over to a burying ground.

The major house of the adjoining villa at the Selitryonnoye site (dig No. XI) is still larger tnan the one described above. Its outside walls were of burned brick 90 cm. thick. In the southern part there was a passage, with small brick steps before it, which led through an aivan, with the same sort of gamma-shaped sufas to its sides, into a small vestibule, and thence into a central hall. All the interior walls were built in the following fashion: in the solid clay aggregate of the socle, about 25 cm. thick, narrow trenches up to 30 cm. wide were cut, and in these trenches rows of burned and of sun-dried bricks were laid. On these foundations there were laid down the wooden beams of frames serving as bases for cradle-walls with adobe-brick fillings piled aslant. These were wooden frames to bear the enormous weight of the roof.

The central hall measured 7 x 15.2 m. On entering it through a southern passage one found oneself to begin with on a paving of burned brick flanked by sufas. Then one advanced upon a square floor laid with square burned bricks forming a cross-shaped design and with hexagonal slabs filling the spaces between the arms. Floors of burned-brick hexagonal slabs have been familiar in other edifices as well, for example at the Tsarevo site (Tereshchenko, 1843, p. 127). At the center there was a square of paving consisting of square burned bricks bordered at the edges with vertically-set halves of burned bricks. This was the top of a toshna sump, below which there was a large bell-shaped absorption well.

In the depth of the hall beyond this floor there was a square elevation of burned bricks upon which there had evidently stood the throne of the lord, a major aristocrat or official.

Thus the central hall reminds one of the central hall of the house we have just described. In the same fashion, dwelling and family quarters were arranged to right and left of it. But there were a good many more of them. These were rooms with sufas, ovens, and tandyrs with kans; sometimes with separate tandyrs, or with a toshna sump; they were usually brick-floored.

In one room a toshna sump was found around which there had been laid in the floor a square frame of blue-glazed bricks. There were also floors of burned bricks in the connecting corridors. A tamped solid clay disk with a channel around it, the base to a millstone, was found in one of the rooms. This enclosure was the household mill. It contained pits several of which had been covered with planks. In another room two large tandyrs had been set up in a massive sufa; they lacked kans. This enclosure served as a bakery. One room had in the center of its burned-brick floor paving a square basin lined at its borders with burned bricks set on edge and lime-mortared; end-fitted clay pipes and a channel led water off from this.

The walls of the central hall were whitewashed and ornamented with panels of kashi tiles bearing underglaze painting with golf-leaf.

Other enclosures had mural painting on white stucco. Red, brown, and dark or light blue hues predominated in the painting; green pigment and gilding are encountered, sometimes with the surface of the stuccoing done in relief. One room had unpainted white stuccoing on which graffiti were found, particularly images of a man wearing a crown with a vertical inscription in Uighur script (Illustration 81, fig. 3); of a man with an umbrella, of wild beasts; and there are inscriptions in Arabic script. On the surface of the sufa in this room a "Babylon" has been scratched in - an accessory to a gambling game. To judge by children's drawings on the stucco this was a childrens' room. In the house there were windows that had plaster of Paris lattices for glass panes and doors with ornamental alabaster doorcases. On the west side an extensive complex of baths had been built up against the house. A multi-room house for villa personnel had been erected farther west.

The house had apparently been built in the 1330's. It was soon remodelled. A new southward-facing main wall was erected, and a new entrance into the central house from the south; this was equipped with a ramp.

The next period in the life of this large house, falling approximately to the 1370's - 1390's, is associated with a reversion to barbarism within it. The brickwork of the floors and of many rooms becomes shabby; it is not cared for, there is dilapidation, many rooms are remodelled, cut up into smaller compartments. In some corridors a layer of earth is strewn on top of brick floors and they become earthen ones. The low walls of the basin are broken down and the room with the bath-tub is converted into an ordinary room. This is a period when the house ceased to be a palace and served as premises for the dwelling of diverse simple people, probably potter-artisans. In one of the enclosures in particular, a ceramic artisan lived during this period; he stored up in his quarters a large quantity of kashi mosaic fragments from the units of some sort of structure, in order to use them in the production of kashi manufactures. The decorative ornamentation of the central hall was torn down and swept up into a number of large heaps, and part of this was carried off into other enclosures. It represented something of value, because it had golf-leaf on it.

We may note that all three rich houses on the Selitryonnoye site were dug out at more or less the same spot - the district of large farmsteads between the "Kuchugury" and "Krasny" hills - and that they all offer the same identical picture of desolation of the villas in the 1360's and 1370's.

A large multi-room house was discovered at the Vodyanskoye site in 1914. To judge by the interior - the edging of the inner faces of one of the walls with majolica slabs, the mosaic cover to the toshna sump, and the dimensions (22 x 11 m.) - this was a rich house (Shcheglov, 1915, p. 148-149).

The areas of large multi-room houses of this class (in the order of their being described) have been as follows (in square meters):

Number of enclosures (minus vestibules, corridors, and aivans)	4	10	2	11	6	5	8
Overall area	311	204	101	240	258	426	388
Area of dwelling rooms	111	164	72	--	105	99	85

Yurts

The remains of three large felt tents, or yurts, were brought to light on the Tsarevo site. The yurts were lined with fragments of burned bricks along their edges. These too have been preserved. The diameters of these circles of burned brick fragments have been as follows: 2.7 m., 3.1 m., and 4 m. In two yurts burned brick floor paving and piles of cinders from open hearths have been preserved in part (Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, p 127-128).

Service Structures in Proximity to Dwelling Houses

Sometimes open platforms were made before the main houses at villas; they had low walls of burned and adobe brick with light wooden fixtures, apparently screens. One such platform, 7.1 x 8.5 m. in size, was built before the great house at one of the villas in the eastern part of the Tsarevo site. It was in two steps and was about 70 cm. high. A narrow ramp or stair led up to it. Such platforms are sometimes depicted in Persian miniatures of the XVth and XVIth centuries (Fyodorov-Davydov, 1981).

In the courtyards of the houses stood some tandyrs, in the open or beneath awnings. One also encounters open hearths in the form of small round or T-shaped pits, but also rectangular and oval ovens lined with bricks and sunk into the ground, sometimes with small oven-front pits (Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, fig. 19, p. 141; fig. 141, pp. 22, 23, 24, p. 148).

One finds utility pits, including smallish ones for grain with straight low walls, round or oval. At the Vodyanskoye site a very large grain pit was discovered, about 5 meters deep with a cylindrical upper part 90 cm. in diameter and with a sharply defined bell-shaped expanded part below. The diameter at the bottom was 4 meters (Yegorov and Poluboyarinova, 1974, p. 72, fig. 17).

At the Selitryonnoye site a cellar was discovered which had been dug out alongside a house at dig II, to a depth of 1.2 - 1.4 m. It constituted a rectangular pit which was connected by a corridor to another oval pit. The bottoms of both pits were laid with planks, and wooden treenails were driven into these. At the same place a round depression was also found, and in it the bottom of a wooden cask. (Illustration 2, fig. II).

Villas

In the eastern suburb of the Tsarevo site three villas were discovered which were separated one from another by low tamped clay walls and by aryks (Illustration 113, fig. I, 13). Two villas are arranged one after the other along a street beyond the city rampart and moat. In the first villa, which was functioning in the 1340's to 1360's, there were two main houses, symmetrically positioned side by side, with adobe-brick socles and wooden structural walls (Illustration 5, fig. I) and a low clay dividing wall; and subsequently on the site of the dividing wall there had been erected a multi-room house for villa personnel consisting of three houses with wooden walls, connected together. In the second villa a house was brought to light that had an adobe-brick socle and wooden walls, with a small wooden jeweller's workshop built up against it. Subsequently there was attached to this house a second house of the same sort (Illustration 5, fig. II). Together they constituted the main house of the villa. A large house of many rooms ran along the street; it was made up of four houses with wooden walls and of one house in the center having wooden walls on an adobe socle. These houses for villa personnel were built to the same plan - first the interior installations of adobe brick and the socles to the walls were erected in a single line, and then the wooden walls were set up (Illustration 5, fig. VII). At this villa a large oval reservoir of 9 x 12 meters and 1.5 m. deep was discovered. The time when the second villa was alive was the 1350's and the beginning of the 1360's. The third villa throve in the 1360's and 1370's. Upon it there were excavated a dugout which perhaps served as a workshop for a jeweller and goldsmith, a multi-room house consisting of four houses with wooden walls, a free-standing house with wooden walls, and two pottery kilns.

These were smallish medium-output villas. Their main houses have adobe bases and living quarters for servants and villa dependents consisting of houses built in the main with walls of wood (Fyodorov-Davydov, Vainer, and Guseva, 1974, p. 89-126).

Richer ones are the villas in the southeastern wards of the Tsarevo site (Illustration 113, fig. I, 14), where villas were laid out between aryk-lined streets and were surrounded by walls or by tamped-clay fences. At each there was a main house, a house for villa personnel, and a reservoir. Here three villas have again been excavated. In the first, two central houses set symmetrically side by side and connected by a low wall had adobe-brick walls, that is to say they were a rank higher than the main houses of the villas we have just described. A dwelling for servants in the form of a house with wooden walls on an adobe-brick socle close to one of the main houses, so that they had a common entrance which led first into the house for servants and thereafter into the main house (Illustration 4, fig. I). At this villa we have investigated a round reservoir about two meters deep and 6 meters in diameter. The approximate measurements of the villa are 30 x 40 m. (Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, p. 80-85).

A second villa (Illustration 5, fig. III) had the central house described above, in the form of a joining together of four dwelling houses with socles of adobe brick and wooden walls, plus the same sort

of service structures grouped around a central courtyard (Illustration 5, fig. VI). This house falls within the class of the large ones a rank higher than the conglomerate of simple single-room houses mechanically connected with each other. In harmony with this the enclosures for servants, too, represented living quarters a rank higher than those in the first villa of this district. This one was a conjunction of three houses with walls of adobe brick. The overall dimensions of both these villas were large - about 70 x 75 m. The period at which both these villas were active was apparently the 1350's to 1370's (Mukhamadiyev and Fyodorov-Davydov, 1978, p. 88-102).

The third villa (Illustration 5, fig. III) in the southeastern wards of the Tsarevo site was built side by side with the second and at the same time, and it had a party wall with the second villa. It consisted of a central house, remodelled, which to begin with had been a two-room adobe one, and later became a burned-brick house with eleven rooms. There was a path of brick rubble around it, and a rectangular reservoir back of it with a facing in the form of a frame of pine beams; the reservoir's dimensions were 5.8 x 3.2 m., and its depth was about 2 m. Before the house there was a staged platform with a stairway - a pavilion with a light wooden awning. The villa had two entrance driveways, a northern and a southern one. The two driveways were opposite each other. The main house stood on the line connecting these two driveways. The southern one, located opposite the entrance to the central house, consisted of a simple embrasure in the wall bounding the villa. In this embrasure there was a paving of brick rubble. To either side of the northern driveway into the villa lay the two above-described houses with adobe walls, having four monotype rooms each, with individual entrances - residences of a privileged portion of the villa people, perhaps a military guard or company. From these houses there ran to one side the adobe-brick wall of the villa and to the other (the western one) a series of structures; five monotype houses with wooden walls daubed with clay and having sunken floors, and one house completely above ground having wooden and adobe-brick walls. All the houses had sufas and kans, and they constituted dwellings of villa dependents. Farther on the wall of the villa commenced. In connection with the re-planning of the main building somewhere around the turn of the 1350's - 1360's other structures of the villa were subjected to remodelling as well. The northern entrance driveway into the villa between the two houses was closed, and at that spot a dwelling enclosure with sufas and a kan was built. The two outermost wooden houses with sunken floors were torn down at the time of the building of a new house with an adobe socle - likewise a dwelling for villa personnel. Thus the villa common folk, living outside the main house, were divided into two groups - a privileged one for which stout houses of brick were built, and with dwelling units having indivdual entrances, and an abased one that lived in poor wooden houses. The social status of this latter category of villa people apparently became to some extent lowered over the course of time, since one above-ground house was torn down and ceded its place to a dugout of "slave" type.

In the courtyard of the villa, moreover, open hearths and also kans standing in isolation were found.

The approximate measurements of the villa were 100 x 70 m. The villa ceased to exist at the middle of the 1360's, when the moat and rampart of the Tsarevo site were put through it, destroying a number of the villa's structures (Fyodorov-Davydov, 1981).

As has been pointed out, the second and third villas in the southeastern wards of the Tsarevo site were built at the same time and had a wall in common, but their fates were different. One of them was destroyed by civic or khanate decision in the 1360's when they ran a line of fortifications through its territory. The other hung on, although in a state of dilapidation, till the 1390's and was destroyed, to judge by skeletons of people who perished and were hastily buried beneath its walls, as a result of the taking of the city by the forces of Timur in 1395.

Still another villa, the one with the so-called "house with the yurts" (Illustration 113, fig. I, 10), was partially excavated in the southern suburbs of the Tsarevo site. Its central house constituted a conjunction of three one-room dwelling houses and one large, almost empty, straggling house. This was again a rich, large house of many rooms, and accordingly, just as at the two villas in the eastern wards of the city, the premises for servants consisted of a dwelling of somewhat more elevated rank - it was a two-room house made up of one house with brick walls and one house with wooden ones. At the villa a small courtyard lay by the main house; it was sunk into the ground about 90 cm. and was paved with burned brick over its bottom. The dimensions were 15 x 20 m. It was connected with a large dugout intended for servants. Yet another dugout for servants lay at another part of the house. The above-ground house for villa personnel had been partially destroyed and on its site a large dugout without oven had been made; we considered it possible to regard this as a dwelling for slaves. Probably the small dimensions of the above-ground house for servants were made up for by the other dwellings for villa menials, the two dugouts. Perhaps this speaks of a harsher regimen in this villa, where even a shifting of villa people from an above-ground dwelling into a dugout without heating was called for. We saw the same phenomenon at one of the villas, described above, in the southeastern wards of the Tsarevo site. Yurts, the summer dwellings of the villa's owner, were set out alongside the large house - a reminiscence of the nomadic life of the aristocracy of the Golden Horde cities. The period during which this villa throve was the 1340's to 1390's. It is interesting to note that no victims of the 1395 Timur pogrom were found at this villa, something which is to be explained by its faubourg situation relative to the rampart of the townsite - evidently during the siege of the city the whole population of the villa had fled into the city, which did provide some cover despite the weakness of its system of fortifications (Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, p. 114-138).

Still larger in area than the villas in the eastern wards of the Tsarevo site was a villa investigated at the Selitryonnoye site that had the large eight-room house, described above, with stout adobe walls (dig No. VIII). The central house is distinguished by its size and richness and the dimensions of the farmstead are considerably larger - approximately 100 x 100 m. Built up against the main house are on one

side a structure consisting of two houses with wooden and cradle walls, on the other side two separate houses also having wooden walls. These are dwellings for one category of villa people, a more privileged one. For another category large houses had been erected that were divided into rooms without sufas and without ovens, but having one open hearth per large room - dwellings for villa servants and laborers of lower social status.

Water Supply of Houses and Villas

A great share of the major streets of the Tsarevo and Selitryonnoye sites had aryks. These were canals of varying breadths - usually 70 - 100 cm. to 2 - 3 meters, and 60 cm. to 1.5 m. deep.

At a late period in the life of the city the aryks of the Tsarevo site were connected with the moat surrounding it. Then the moat in its turn was connected by a network of canals to large artificial lakes created on the northern edge of the city. There the hillocks and spurs of the hypertidal river terrace of the Volga-Akhtuba were joined together by dams of cinder and brick fragments, and water, flowing in the spring and autumn into the low area where the city was laid out, was contained in these artificial reservoirs. In this way the city's territory was ensured against susceptibility to being swamped and at the same time water reserves were created (Illustration 113, fig. I).

The aryks were furthermore replenished with water from wells included in their system. At a crossing of two streets in the central part of the Tsarevo site a well of this sort having a diameter of 1.5 m. and a depth of 1.7 m. was opened up. An aryk took its departure from this well.

In the wards of the run-of-the-mill part of the population at the Tsarevo site the supplying of water probably took place through such community wells and large ward reservoirs at street crossings and squares. Things stood otherwise on the farmsteads. Here the supplying of water was accomplished by villa reservoirs and also by wells. The wells were cylindrical, sometimes narrowing a little downward, often lined with fragments of burned brick (Illustration 2, fig. I). Their size was 0.5 - 0.7 m. across at the top. Depth depended on the level of the ground water. At the Selitryonnoye site a well was discovered that was as much as 15.6 m. deep (Ballod, 1923 - 2, p. 46). Sometimes wells were made in the floors of living quarters (Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, fig. 12, p. 132).

At the Vodyanskoye site a large well was discovered that had been dug into a pit having sloping sides. The aggregate depth of the pit plus well was 3.3 m. The diameter of the well was 2.1 m. at the top and 1.5 m. below (Yegorov and Poluboyarinova, 1974, p. 53, fig. 6).

Drainage Works

At the Selitryonnoye site a drainage system was discovered that served to carry off water from the soil. It consisted of ditches dug along the streets to a depth of approximately 1.8 m., in which wooden piping put together in halves of gouged-out trunks was laid. The drainage systems were repaired, and new pipes were put in place on top of the older ones, when the latter became choked; or else new channels for fresh pipes were dug out. The diameter of the pipes was 66-70 cm. (Illustration 1; Illustration 2, fig. I).

Public Buildings

A large public mosque was excavated at the Vodyanskoye site. It constituted a rectangle of 26 x 35 m., running longitudinally from north to south and with its mihrab orienting it toward the south-southeast (Illustration 5, fig. V). The walls of the building were built in broken stone with inclusion of squared stone blocks mortared with clay. Inside it was covered with white stucco; on the outside, stuccoing covered the southern and eastern walls, which faced an open square before the building. The inside expanse of the building was divided into six naves by columns. Rows of stone bases to the wooden columns supporting the roof had been preserved. The floor had been covered with planking.

In the southern wall was the mihrab, constructed of burned brick and faced with white stucco (Fyodorov-Davydov and Poluboyarinova, 1976, figure 6). Above the mihrab was an alabaster slab with a relief inscription in Cufic script. The azimuth of the axis of the mihrab comes to 171°.

Before the mihrab there was a rectangular piazzeta separated from the rest of the space by wooden columns resting upon stone bases. Apparently the columns had supported a canopy. In the center of this piazzeta, opposite the mihrab, a marble column had been dug in, and on top of it there had been a portion of a marble capital of the early Byzantine period, brought from ancient city of the Black Sea littoral, probably Chersonesus.

The entrance to the mosque, located in the north wall, was shaped by two pylons composed of large squared stone slabs.

At the northern angle of the building the rectangular facing of the socle to the minaret had survived (dimensions 5.2 x 4 m.); it was of large stone slabs and blocks. Above the socle there had evidently been the round tower of the minaret, made of burned bricks the edges of which were arcs in plan. The surface of the minaret was ornamented with turquoise-glazed tablets alternating with inserts of ganch * bearing the impressed inscriptions "Allah" and "Muhammed" plus arabescques. On its north wall, where the entrance was, the mosque lay along a street that had an aryk. The entrance to the mosque led off this street. On the other side of the street lay villas closely packed together, with poor houses having wooden walls upon stone socles, hedged in with fences in the form of pickets.

* Ganch is defined and described in Chapter VI on architectural decoration. It is gypsum - either alabaster, or gypsum rock; or as here, since it can be impressed or modelled, a sort of plaster of Paris.

The mosque was built at the middle of the XIVth century and apparently continued to thrive till the end of the 1360's or into the 1370's. Later on there came into being upon its site a large cemetery, the first burials in which occurred while the mosque still existed. The cemetery did not spread to the opposite side of the street, beyond the aryk, although to judge by coins this part of what had been constructed apparently ceased to exist, as did the mosque, after the 1370's.

On the other side of the mosque to the south there were also ordinary structures for poor folk, mainly with wooden houses on stone socles. Between the plots of these houses there was a rectangular plaza approximately 47 by 60 meters. This part of the building work existed from the 1330's onward, i.e. from before the construction of the mosque; it was partially broken into by the mosque in the 1350's (the mosque was, as one might say, built into the solid ordinary housing mass of the city), it existed during the period the mosque was active down to the 1370's, and it ceased to be inhabited in the 1380's or 1390's, when the cemetery with its tombs, which had at first grown up hard by the mosque itself, came to extend hither (Yegorov and Fyodorov-Davydov, 1976).

A mosque analogous to that at the Vodyanskoye site was one at the Golden Horde ruins near Zaporozhye - the same hall of columns (four naves) with stone bases under wooden shafts, the same sort of pylons at the entrance. The floor of the mosque was paved with burned bricks, and the walls were made of broken stone and partly of the same sort of bricks. The dimensions were 26 x 17.9 m., i.e. considerably less than those of the mosque at the Vodyanskoye site (Dovzhenok, 1961, p. 177-181).

Another public building was also discovered at the Vodyanskoye site. It was sunk approximately two meters into the ground. Its walls, 80-90 cm. thick, enclosed several compartments the total number of which is unknown since part of them had been destroyed by a collapse of the river bank. Five compartments have been studied, and of these three had sub-floor heating of the type of Roman hypocausts. Below the floors were short pillars made up of several burned bricks set one upon another to a height of not less than 30-35 cm., and upon these the flooring rested. The floor consisted of stone slabs, over which burned bricks were laid upon a stratum of lime mortar. Piping to conduct water was laid in the floor. Smoke and hot air, which heated the room, circulated among these short pillars. A fourth of the rooms laid bare, having a floor of burned bricks mortared with lime, was apparently a corridor and may have been an undressing-room. The fifth enclosure had a stairway-entrance, sufas, and kans. The floors were somewhat below the ground level. The fourth and fifth rooms did not have hypocaust heating, and the latter of these was a vestibule and undressing-room. The dimensions of these rooms were 3 x 3.5 and 7 x 6.5 m., while the

dimensions of the heated ones were 2.4 x 3.5 and 3.1 x 4.3 m. The oven was not discovered. A horizontal smoke duct led from one of the rooms to carry smoke from beneath the floor, and a channel for run-off water led from another. It consisted of a trench dug into the ground and lined at the sides and covered above with stone blocks. This bath-house was in operation during the 1350's and 1360's (Yegorov and Poluboyarinova, 1974, p. 42-46).

We have already mentioned the villa bath-house at the large house on the Selitryonnoye site (dig No. XI). It had two bath-rooms proper, with hypocaust-type heating which was fed from a large oven placed outside the walls of the rooms. On top of the oven there stood on stout brick pylons what was evidently a tank for heating water. The dimensions of these two enclosures were 9.4 x 7.4 m. and 3.4 x 7.4 m. Two water outlets led from them. These compartments, which were the actual bath-rooms, formed part of a complex of several rooms. In one of them a basin of lime-mortared bricks, faced with lime mortar, had been set up.

At Mokhsha a bath was discovered that had stone foundations and hypocaust heating. Its plan was cross-shaped, on the lines of Bolgar baths. Around this bath-house there were found a further seven structures with the same sort of heat ducts beneath their floors, with adobe-brick foundations and one of them with foundations of broken-up burned brick. These were also baths (Alikhova, 1976, p. 171, fig. 1). A bath with cellar heating of the same sort, apparently cross-shaped in plan, was found at the Golden Horde settlement at Zaporozhye (Dovzhenok, 1961, p. 182-186). A bath with hypocaust heating and having a plan very close to the Bolgar sort was found at Old Orkhei in Moldavia (Smirnov, G.A., 1954, p. 31). Probably this sort of bath spread into the Golden Horde from Transcaucasia.

Construction Materials

Brick was the main thing they used in construction - burned brick and adobe brick; also wood (oak and pine have been identified). Clay, rarely lime, was used as a binding mortar. The same things were used to face walls and surface floors. Broken stone and more rarely squared stone in the form of blocks were utilized. Stone was used particularly often in construction at the Vodyanskoye site. Architectural details executed in stone are to be found (Ballod, 1923 - 1, fig. 27, 28).

The shape of the burned brick at the sites of the lower Volva averages 21 - 22 cm.x 21 - 22 cm.x 4 - 4.5 cm., with a tendency to become thicker, up to 4.5 - 5 cm., toward the end of the XIVth century (Mukhamadiyev and Fyodorov-Davydov, 1978, p. 155; Yegorov, 1970, p. 184). Specially patterned brick was sometimes used for facing architectural details and the walls of minarets. During the Golden Horde period one encounters in the North Caucasus burned brick of large dimensions, up to 25 x 25 x 5 cm. (Gorodtsov, 1911; Rtveladze, 1969, p. 262-263; Rtveladze, 1972-2, p. 150; Polimpsestova and Runich, 1974, p. 231). At the Verkhni Djulat site there is a massive burned brick of 40 x 40 cm. (Miloradovich, 1963 - 1, p. 73, 85). For the lining of mausoleums, in the southern Urals and in the Golden Horde monuments of

Moldavia, the burned brick had dimensions of 23 x 23 x 4 - 4.5 cm. (Polevoi, 1969, p.89). At the Krasny Khutor site in the Voronezh oblast' the burned brick was 25 x 25 x 4 cm. (Levashova, 1960, p.177, 180).

Adobe brick has several standards. A large-size brick 50 x 20 x 6-7 cm. is used for building the perimeter walls of villas and the bearing walls of the large house at the Selitryonnoye site (dig No. VIII). Aside from these there were also adobe bricks of other dimensions. The shape of adobe bricks varied markedly even within the limits of a single building.

Sand and construction debris were used for fill under floors of burned bricks. Sometimes in the filling of sufas sand was poured in and bricks were laid in it.

Marble details, columns, capitals of the classical and Byzantine periods, and also steles bearing inscriptions, were brought from the ruins of the Black Sea cities, and these were used in construction along the Volga (Yegorov and Fyodorov-Davydov, 1976, p. 128; Ballod, 1923 - 1, p. 38).

Sometimes walls were laid in the form of two rows of adobe bricks between which a rubble of fragments of burned and adobe bricks plus earth was poured, and sometimes wooden posts were set at the angles (Ballod, 1923, p. 111).

At the Selitryonnoye site a subdivision has been discovered where at a certain period of the community's life in the XIVth century quicklime was produced for construction purposes. A number of large storage jars dug into the ground and containing slaked lime was found, also kilns for calcining limestone.

* * * * * *

A peculiarity of Golden Horde city-building is the great multiplicity of house types and construction materials. There turns out to be a connection between the type of house and the social status of its occupants.

There was no articles of furniture in Golden Horde houses - their places were taken by sufas carpeted with felting and warm along one side and by various auxiliary structures on the floor and on the sufas. The floor ordinarily occupies little of the space - the life of the house runs its course mostly on the sufas.

One's attention is drawn by the frequent remodellings in the houses of Golden Horde city-dwellers. Two or three construction periods can be traced out in houses and dugouts over a spell of 20 - 30 years. The instability of the society is reflected in the frequent rebuildings of houses of the wealthy.

For all the variety of house types one should remark upon the coarseness of the technique of raising walls - frequently they were built of various materials at a single house, wooden walls alternating

with robust brick ones of multiple breadths, walls being laid in uneven courses, the plans of houses failing to maintain right angles. Even the walls of a large public mosque were put together of broken stone bound by simple clay for mortar, and they were altogether flimsy and uneven; some sections of them were made of a different material (of burned bricks). Foundations were not dug in beneath walls. Many major edifices were put together in slap-dash haste. Marble was brought in from afar and then it was utilized with no understanding of its characteristics as a construction material (Yegorov and Fyodorov-Davydov, 1976, p. 128). But even so the Golden Horde builders did understand the principles of house-building and they correctly calculated the thicknesses and heights of walls, the weights of roofs; they knew how to raise vaults and domes. They made use of the building techniques and traditions of many peoples, primarily ones that they had subjected.

L. R. Kyzlasov quite justifiably holds that the Golden Horde square house with pi-shaped sufas and kan came into being among sedentary Mongols in Central Asia before Chinghiz Khan's empire assumed form. He explains the spreading of this house into the west by taking it that both builders and craftsmen came from Mongolia together with the Mongol armies, (Kyzlasov, 1975, p.174). Combatting this thesis, V. L. Yegorov holds that this type of house arose in the steppe during the period of the foundation of the Mongol state as a metamorphosis of a yurt-type house round in plan (Yegorov, 1970, p. 180-182; Tipy Traditsionnogo Zhilishcha, 1979, p. 214). S. A. Akhizhanov and L. B. Yerzakovich suppose that kans were borrowed from southern Kazakhstan, where they were known long before the Mongol invasion (Akhizhanov and Yerzakovich, 1972).

There are parallels to the Golden Horde house, with its wooden walls on adobe socles, in the present-day Mongol dwelling and in certain representational materials from Karakorum of the XIIIth century. The wooden cradle and panel walls are apparently an element borrowed from Central Asia. It is characteristic that at the richest house among those excavated at the Selitryonnoye site, a house which presumably belonged to a member of the Mongol elite, the archaic cradle principle of raising interior partition walls is retained despite the luxury and enormous dimensions of the house and despite its glazed decorative elements and the stuccoing painted with murals. A connection of the pi-shaped sufa and kan with the building traditions of Central Asia is beyond question. These are also present in Mongol cities of the XIIIth and XIVth centuries in Central Asia. The principle of framing the entryway with low gamma-shaped walls or sufas proves to be borrowed from Mongol housing construction of the XIIIth century in Central Asia. V. L. Yegorov has pointed out Central Asiatic parallels to the wooden house on the dunes, having a warm central room, that was excavated at the Tsarevo site (Yegorov, 1970, p. 187-188).

It is interesting to note that in the central halls of two rich houses excavated at the Selitryonnoye site, and perhaps at the Golden Horde settlement near Zaporozhye, the entrance faced south while the seat of the head of the house was in the northern part - this is the way Rubruck and Marco Polo describe the arrangement of entrances and the throne or seat of the lord in the palace of the kaghan at Karakorum

and in Mongol yurts (Marco Polo, 1955, p.88; Puteshestviya, 1957, p.92,159).

The villas of the Golden Horde cities, with their sides oriented toward the light, were similar to the Karakorum ones and to other villas at early Mongol cities of Central Asia in the XIIIth century.

In Golden Horde construction activity, features borrowed in the mid-Asian tier appear in combination with Central Asian building techniques; such features are the square burned brick, tandyrs, the toshna, small towers at the angles of large houses, and aivans before entrance doors.

There are traces, even though less perceptible ones, of the influence of Bolgar building - pylons at the portals of mosques and tombs, bell-shaped grain pits of Bolgar type. The mosque at the Vodyanskoye site has a resemblance to the "Square" mosque at the Bolgarskoye townsite.

The types of houses at the Volga Golden Horde cities were disseminated through the Northern Caucasus, but in somewhat altered form; the dwelling rooms of large houses interconnect in a different fashion, ovens and kans are otherwise installed, but the tandyrs are much the same, although they sometimes have end-fitted smoke-outlet sections. Tandyrs with end-fitted piping that leads off from the very bottom of the tandyr are found at Azak, and also at the Golden Horde monuments of Moldavia and at Belgorod-Dniestrovsk. They were known in pre-Mongol monuments of Azerbaijan (Yakobson, 1959, p. 60). The toshna and the paving of floors with brick are similar (V.A. Gorodtsov, 1911, p. 194, 198-201, 183). These elements are also encountered both at Saraichik and higher up the Volga, at Mokhsha and in Volga Bolgaria, where nevertheless in the XIIIth-XIVth centuries it was in the main local pre-Mongol construction traditions that prevailed. In the west - the Crimea, and the cities on the Dniestr - there are no elements of the construction activity of the cities on the Volga. In the west some principles of lower Volga house-building and monumental architecture are disseminated only along the Dniepr (the townsite on the Dniepr near Zaporozhye).

CHAPTER IV

GLAZED CERAMIC WARE

Glazed ceramic ware is the vividest and most characterful manifestation of the life and culture of the Golden Horde city. The daily round even of middle-class and sometimes, indeed, poor city-dwellers was embellished by this bright, motley pottery, so strikingly distinct from the coarse, monochrome pottery of ancient Rus or of medieval central and northern Europe of those centuries.

In glazed ceramic ware the general style of the skills of the period, those artistic effects that were associated with the turbulent times of the formation and evolution of the Mongol states, found brilliant expression. The syncretism and the composite nature of the culture of the Golden Horde city were well brought forth in it. This was artistic production on a really mass scale, reflecting and itself powerfully influencing the social psychology and the tastes of the people that filled the markets and the houses. These were the manufactures of an evolved craft that had at its disposal all the technical achievements of the potter's craft of the Middle East.

In this field of culture three mighty currents met each other upon the terrain of the Golden Horde Volga basin. The first was associated with the countries of the eastern Muslim world, Iran and Central Asia; the second with the culture of Byzantium, Chersonesus, and the eastern Caucasus; and the third with the countries of the Far East.

Classification of Glazed Ceramics

Golden Horde glazed ceramics are divided into basic major classes according to the nature of the ceramic body (Bulatov, 1968; Bulatov, 1969 - 3; Bulatov, 1976 - 1).

Within the classes there are divisions depending on the presence or absence of lead in the composition of the glaze. Within the divisions there are subdivisions depending on the transparency of the glaze. Within the divisions and subdivisions there are groups and types depending on the coloration of the glaze, the techniques of its application, and the composition of the pigments of the ornamentation.

Class I. Kashi Ceramic Ware

From the name of the city of Kashan: this was the name given in the Middle East to architectural ceramic decorative material. Kashi is a sort of faience (Bulatov, 1968; Grazhdankina and Rtveladze, 1971). This glaze is made of a special composition with a large quantity of

silicate sands, clay, and lime having an admixture of kaolin and spar with a cementing substance. Kashi became known from the XIIth century onward in Central Asia, from the XIth century onward in Iran. This friable mass cannot be left without glaze. A stratum of glaze preserves it from disintegrating. The white porous mass, in some cases with relief, creates an agreeable background for transparent glazes, endowing them with a special depth.

Division I. With leadless glazes

Leadless alkali glazing preparations ordinarily produced a thick stratum of glaze on the bottom of the vessel's cup. Leadless glazes were mainly of sodium-calcium-magnesium-silicon earths and sodium-potassium-silicon earths. Pigmentation was achieved by adding compounds mostly of copper, chromium, and cobalt in varying proportions, but also of other substances.

Subdivision I. With transparent glaze

Group I. With colorless glaze

Type 1. With underglaze polychrome painting in green, dark blue, white, and light blue hues, with relief (Illustration 9-12; Illustration 13, figure 1, 2, 4; Illustration 23, fig. 2).

Type 2. Same without relief (Illustration 13, fig. 3, 5, 6; Illustration 14, fig. 2-4; Illustrations 15-21; Illustration 22, fig. 2; Illustration 23, fig. 1,3; Illustration 33, fig. 2).

Type 3. With underglaze polychrome painting and pierced ornamentation. The pierced ornamentation is applied by thrusts through the kashi base, which are then filled in with colorless melted glazing material - the so-called "rice grain" technique.

Type 4. With underglaze painting with ultramarine cobalt pigment. Falls to the end of the XIVth century and was particularly widely disseminated in Central Asia during the XVth century, for which reason it has received the name "Timurid" (Illustration 23, fig. 4; Illustration 27-30; Illustration 33, fig. 1).

Type 5. The same as type 4, with pierced ornamentation in "rice grain" technique (Illustration 29, fig. 3).

Type 6. With underglaze painting with ultramarine cobalt pigment and with white dots in relief (Illustration 22, fig. 1).

Type 7. Without painting and relief and without other sorts of ornamentation.

Group II. With turquoise glaze

Type 1. With black underglaze painting. In some cases the black painting is replaced by dark green (Illustrations 24-26).

Type 2. With black underglaze painting and incised work

on the paint.

Type 3. With relief but without painting. At projecting spots the glaze stratum is thin and an almost white hue is secured.

Type 4. Without painting and relief, and without other sorts of ornamentation.

Group III. With ultramarine glaze

Type 1. With black painting.

Type 2. Without painting and relief, and without other sorts of ornamentation.

Group IV. With ultramarine and turquoise glaze

Type 1. With ultramarine glaze and relief on the outside and with turquoise glaze on the inside, without painting. At projecting spots the glaze stratum is thin and an almost white hue is secured.

Subdivision II. With non-transparent glaze

Group I. With white glaze

Type 1. With polychrome painting, plus gilding (Illustration 33, figs. 3-5). Apparently came into being as an imitation of the "minai" ceramic technique (Kverfeld, 1947, p. 43-46; Kühnel, 1970, p. 104-107), known in Iran.

Type 2. With "lustre" painting (Kverfeld, 1947, p. 41-42, 68; Kühnel, 1970, p. 100-104).

Type 3. Without painting and relief.

Group II. With ultramarine glaze

Type 1. With polychrome painting, and with gilding.

Type 2. Without painting and with relief.

Type 3. Without painting or relief

Group III. With turquoise glaze

Type 1. With polychrome painting and with gilding.

Type 2. Without painting and with relief.

Type 3. Without painting and without relief.

Group IV. With ultramarine and turquoise glaze

Type 1. With ultramarine glaze outside and with turquoise glaze inside, with polychrome painting.

Type 2. With ultramarine glaze outside and with turquoise glaze inside, without painting or relief.

Group V. With light green semi-transparent glaze

This ceramic group is an imitation of the "celadon" type of import porcelain (Kverfeld, 1947, p. 27).

Type 1. Without painting, with relief.

Type 2. Without painting or relief.

Type 3. With incised ornamentation of the kashi beneath the glaze.

Kashi ceramic ware is distributed in the following fashion according to these types: ceramic ware with transparent glaze and polychrome painting, with relief and without relief, makes up approximately the same proportion at the Tsarevo and the Selitryonnoye sites - about 40-43% of the total glazed kashi ceramic material; at the Madjar site about 30%; with cobalt underglaze painting, at the Selitryonnoye and Madjar sites 10-11%, at the Tsarevo site less than 1%. Ceramic ware with turquoise glaze and mainly black painting makes up approximately 26-29% in the kashi material of these three sites. The share of the remaining sorts of ceramics does not exceed 5-6% for each. Ceramic ware with non-transparent glaze makes up in its aggregate not more than 15-16% of all kashi material (Bulatov, 1968, p. 100, plate 2; Shlyakova, 1980, p. 76).

Class II. Red-clay Ceramic Ware

The clay has an admixture of gravel, crushed grog, sometimes finely crushed glass, and sand (Bulatov, 1976 - 1, p. 74). The paste is well clarified, and the finely crushed admixtures are inconspicuous. The ceramic ware is of high quality, thin-walled, almost always of good kilning.

Division I. With leadless glaze

Subdivision I. With transparent glaze

Group I. With colorless glaze

Type 1. With underglaze painting by means of pigments on light engobe (light, or "bright" in color, not in weight or consistency - Tr.). This type of ware imitated kashi ware with polychrome underglaze painting.

Type 2. With painting by means of light engobe. Where the glaze was laid directly on the clay a chestnut color was secured; where on the engobe, a white color.

Group II. With turquoise glaze

Type 1. With painting by means of light engobe. Where the glaze was laid directly on the clay a dark-blue color was secured; where on the engobe, a turquoise color.

Subdivision II. With non-transparant glaze

Group I. With turquoise glaze

Type 1. Without painting.

Group II. With ultramarine glaze

Type 1. With on-glaze polychrome painting. This ceramic ware constitutes a transfer of the technique of kashi ornamentation to a red-clay vessel.

Leadless glazes make up about 11-14% of the overall mass of glazed red-clay ceramic ware. The remaining ceramic ware has a lead glaze (Bulatov, 1976-1, p. 74, plate 2).

Division II. With Lead Glaze

One encounters the lead-silicon earth glazes most widely disseminated in medieval glass-making. Manganic oxide is often introduced into the composition of the glaze (this is particularly characteristic of the Tsarevo site) to render it colorless. There is an admixture of antimony - antimonial lead was apparently used. A lead-lime-silicon glaze is often found. Together with similar lead-silicon glazing materials these glazes make up around 60-80% of the total red-clay ceramic ware. Sodium and potassium were also introduced into the composition of the glaze, but there is comparatively little of such ceramic ware (Bulatov, 1976 - 1). Lead glazes provide a stratum more delicate and more evenly distributed on the surface of the vessel than do leadless ones.

Subdivision I. With Transparent Glazes

Coloring of lead glazes was brought about by admixture mainly of copper oxides, added in various proportions and combinations with other substances. Dappled coloration of the glaze was secured by sprinkling the engobe with the copper oxides before it was covered with glaze. Where the glaze falls upon these oxides it takes on a greenish-chestnut hue in the form of deliquescent spots (Kverfeld, 1947, p. 23-24).

Group I. With green glaze

Type 1. Without engobe and ornamentation.

Type 2. With painting in light engobe (Illustration 35, fig. 1). Where the glaze lay directly on the clay a dark-green hue was obtained; where it lay on the engobe, a light-green hue. There are rare fragments of this ware with use of red engobe.

Type 3. With light engobe without ornamentation.

Type 4. With light engobe and spotty glaze.

Type 5. With stamped relief or with appliqués, without ornamentation and without engobe.

Type 6. With incised ornamentation on light engobe. After being covered with glaze of any color the incised lines had a dark hue, almost black.

Type 7. With ornamentation in reserve (graffito) technique and with incised lines on light engobe. In reserve technique the engobe was left where the design lay, but the background was scraped down to the clay.

Type 8. With incised lines on light engobe and with partial yellowish-orange or brown coloring of the glaze.

Type 9. With black-pigment painting on engobe, without incision (Illustration 37, fig. 3).

Group II. With yellow glaze

Type 1. Without engobe and without ornamentation.

Type 2. With painting in light engobe. Where the glaze lay directly on the clay a dark-yellow hue was secured; where it lay on the engobe, a light-yellow hue (Illustration 34; Illustration 37, fig. 1).

Type 3. With light engobe, without ornamentation.

Type 4. With incision on light engobe (Illustration 38, fig. 2; Illustration 39, fig. 2, 3; Illustration 40, fig. 2, 3; Illustration 42, fig. 1; Illustration 43, fig. 1).

Type 5. With ornamentation in reserve technique on light engobe.

Type 6. With incision and reserve on light engobe.

Type 7. With incision on light engobe plus supplementary incision on the glaze and with secondary kilning (Bulatov, 1976 - 1, p. 94).

Type 8. With incision on light engobe and with polychrome brown painting on engobe (Fyodorov-Davydov, 1964 - 2, Illustration 13, fig. 6; Bulatov, 1976 - 1, Illustration VI, fig. 11).

Type 9. With painting in dark pigment on engobe (Illustration 37, fig. 2, 4).

Group III. With orange glaze

Type 1. With painting in light engobe. Where the glaze lay directly on the clay a dark-brown hue was secured; where it lay on the engobe, an orange hue.

Type 2. With light engobe without ornamentation.

Type 3. With incision on light engobe.

Group IV. With turquoise glaze

Type 1. With painting in light engobe. Where the glaze lay directly on the clay a dark-blue hue was secured; where it lay on the engobe, a turquoise hue (Illustration 35, fig. 2).

Type 2. With light engobe without ornamentation.

Type 3. With black painting on light engobe. This ware imitates kashi ceramic ware having black painting beneath transparent turquoise glaze.

Group V. With-brown glaze

Type 1. With light engobe without ornamentation.

Type 2. With incision on light engobe.

Type 3. With ornamentation in reserve technique on light engobe.

Group VI. With colorless glaze

Type 1. With light engobe without ornamentation.

Type 2. With incision on light engobe.

Type 3. With polychrome underglaze painting on light engobe (Illustration 36, fig. 1; Bulatov, 1976 - 1, Illustration V, fig. 1).

Type 4. With polychrome underglaze painting and with incision on light engobe.

Group VII. With glazes of two hues

Type 1. With yellow glaze inside and green glaze outside, with light engobe without ornamentation.

Type 2. Same as Type 1, with incision inside.

Type 3. With yellow glaze and painting in light engobe inside and green glaze, also with painting in light engobe, outside. On the inside there are spots of yellow glaze on the green glaze.

Class III. Light yellow clay

Dense, well-triturated paste. A very rare ceramic ware in the Golden Horde cities.

Division I. With lead glazes

Subdivision I. With transparent glaze

Group I. With green glaze

Type 1. Without engobe and without ornamentation.

Type 2. Without engobe, with broad incised vertical lines.

Classification of the Forms of Glazed Pottery

In classification of the forms the divisions are segregated in accordance with the functional purposes of the vessel, which is determined through the general nature of its shape. Types are distinguished through details of the form. Forms of vessels that are widespread in unglazed pottery yet are sometimes covered with glaze are examined in the next chapter.

Division I. Bowls

The most widely distributed form of glazed ware. Known in Central Asia by the name of "piala" (Greek phiale? - Tr.)

Type 1. With annular bottom rest, hemispherical body which is brought a little outward by a rim either straight or rounded slightly inward. Kashi and red-clay vessels of this type are encountered (Bulatov, 1976 - 1, Illustrations II, V).

Type 2. With annular bottom rest, hemispherical body ordinarily having broad vertical flutings (the so-called "spoon flutings"), and with a wavy festooned rim. Kashi and red-clay vessels of this type are found.

Type 3. With annular bottom rest, body hemispherical in its lower part and cylindrical in its upper part, the rim thrust slightly outward. Red-clay vessels of this type are encountered.

Type 4. With annular bottom rest, with body truncated-conical in its lower part and cylindrical in its upper part, and with a straight rim. Red-clay vessels of this type are encountered.

Bowls of all types show the following measurement variants (in cm.):

Diameter at rim	28 - 30	21 - 22	18 - 20	17	15 - 16	11

Diameter of bottom	12	7 - 8	7 - 8	6-5	7 - 8	5 - 6.5
Height	13	10	5.5 - 7.5	9	4.5-6	3.6- 5.5

Division II. Dishes

Distinguished from bowls in that they are flatter and have a greater diameter at the rim.

Type 1. With annular bottom rest, with vertical edge and with straight rim. Kashi and red-clay vessels of this type are encountered.

Type 2. With annular bottom rest, with broad horizontal "shelf-like" rim. Kashi and red-clay vessels of this type are encountered (Bulatov, 1976 - 1, Illustration III, fig. 5).

Type 3. With annular bottom rest, "spoon-fluted" body, and broad inclined festooned rim. Kashi vessels of this type are encountered, ordinarily with light-green semitransparent glaze.

Dishes show the following dimensional variants (in cm.):

Diameter at edge	30 - 40	21 - 22
Height	6 - 7	5 - 6

Division III. Pot-like vessels without handles

Distinguished from bowls in that the edges of the body are brought inward, yet a broad throat remains.

Type 1. With annular bottom rest, with rounded body, without neck, with rim slightly everted. Kashi (Illustration 31) and red-clay vessels of this type (Bulatov, 1976 - 1, Illustration III, fig. 2; Fyodorov-Davydov, 1978 -2, Illustration 2) are encountered.

Type 2. With annular bottom rest, with rounded body, with low vertical neck having slightly everted rim. Kashi and red-clay vessels of this type are encountered (Bulatov, 1976 - 1, Illustration 1, fig. 7, 8).

Type 3. With annular bottom rest, body cylindrical above and truncated-conical below, with low, broad neck. Kashi and red-clay vessels of this type are encountered (Bulatov, 1976 - 1, Illustration 1, fig. 6).

The dimensions of pot-like vessels fluctuate markedly; at the place of maximum breadth the diameter of the body is usually 22 - 23 cm., but sometimes it reaches 30 cm.

Division IV. Pot-like vessels without handle and with pouring lip or spout

Type 1. With annular bottom rest, with truncated-conical body sometimes fluted in its upper part, with ribbed conical appliqués (Illustration 94, fig. 12), with conical lip or spout, with vertical neck, with slightly everted rim. Kashi and red-clay vessels of this type are encountered (Grazhdankina and Rtveladze, 1971, Illustration 1, fig. 4).

Type 2. Same as Type 1 with body "spoon-fluted" below. Kashi vessels of this type are encountered.

Division V. Single-handled pot-like vessels without lip

Type 1. With flat bottom, with body rounded above and truncated-conical below, with low neck, with faintly everted thickened rim and loop-like handle oval in section rising above the level of the rim, its upper part attached to the neck. Red-clay vessels of this type are encountered.

Division VI. Two-handled pot-like vessels without lip

Type 1. Like the single-handled pot-like vessels of Type 1, but with two handles. Red-clay vessels of this type are encountered.

Division VII. Goblets

Type 1. With annular bottom rest, short foot, truncated-conical body, slightly everted rim. Red-clay vessels of this sort are encountered (Bulatov, 1976 - 1, Illustration II, fig. 8).

Division VIII. Single-handled pitchers without pouring lip

Type 1. With annular bottom rest, with egg-shaped body, with neck narrowing upward, slightly everted thickened rim, handle oval in section and attached by both its ends to the body. Red-clay vessels of this type are encountered.

Type 2. With annular bottom rest, almost spherical body, cylindrical neck broadening above into a bell-shaped mouth with a straight rim, the handle oval in section with its upper part attached to the neck. Kashi vessels of this type are encountered (Illustration 15). Diameter of neck 5 cm., greatest diameter of body 16 cm., height 22 cm., height of neck 9 cm. (Galkin, 1971).

Division IX. Single-handled pitchers with pouring lip

Type 1. With annular bottom rest, with rounded body, conical pouring lip, narrow neck broadening upward and having a ball-like expansion in its middle part, a straight rim, and a handle oval in section with its upper part attached to the ball-like expansion of the neck. Red-clay vessels of this type are encountered.

In addition one encounters kashi pouring lips, curved in an arc, which narrows toward an end. They are ordinarily covered with light-green or turquoise semi-transparent glaze.

Division X. Two-handled pitchers without lip

Type 1. Like single-handled pitchers without lip, type 1. Red-clay vessels of this type are encountered (Bulatov, 1976, Illustration I, fig. 1,2).

Division XI. Albarellos

Vessels with tall, nearly cylindrical body, truncated-conical bottom and top sections, and a short cylindrical neck (Illustration 39, fig. 2, 3).

Type 1. With annular bottom rest, the rim usually straight or slightly everted. Kashi and red-clay vessels of this type are encountered.

Type 2. Same, with thickened shelf-like rim. The body expands upward a little. Red-clay vessels of this type are encountered.

Type 3. With annular bottom rest, a rounded transition of the cylindrical portion of the body into the upper truncated-conical section. In this section there is horizontal scoring. The rim is thickened and everted. Red-clay vessels of this type are encountered.

Type 4. With disk-shaped bottom rest and straight rim. Red-clay vessels of this type are encountered.

Type 5. With flat bottom and horizontal shelf-like rim. Red-clay vessels of this type are encountered.

Type 6. With flat bottom, with rounded transition of cylindrical part of body into the cone-like one and with thickened everted rim. Red-clay vessels of this type are encountered.

The dimensions of albarellos of all types are (in cm.):

Diameter of body	11	7-11	5-7	8	8	4-6	6
Diameter of bottom and neck	7	5-9	4-5	6-7	4-5	3-3.5	3.5
Height	28	17-23	16-17	12-13	10-12	10-12	7-8

Vessels of albarello type were glazed both outside and inside or else outside only.

Division XII. Bottles with handles

Type 1. With annular bottom rest, rounded body passing smoothly into a tall cylindrical neck having an expansion in the form of a rib at the middle of its height and an upward expansion into a funnel, and a handle oval in section attached below the rim at its upper end. Kashi vessels of this type are encountered. Diameter of neck 5 cm., diameter of greatest expansion of body 15.5 cm., diameter

of bottom 9 cm., height 20 cm., height of neck 16 cm.

Division XIII. Bottles without handles

Type 1. With annular bottom rest, body conical above and rounded below, neck cylindrical and sloping rim markedly everted. Kashi vessels of this type are encountered (Fyodorov-Davydov, 1976, Illustration 117).

Type 2. With annular bottom rest, biconical body, narrow vertical neck, a fillet where the neck passes into the body. Red-clay vessels of this type are encountered (Bulatov, 1976 - 1, Illustration I. fig. 4).

Division XIV. Lamps

Type 1. With annular bottom rest, cylindrical body open above, straight rim, lip having vertical walls, and handle oval in section. Red-clay vessels of this type are encountered.

Type 2. With annular bottom rest, body in form of a right dodecagonal prism with the sides pressed in, round narrowed neck, and straight rim, lip having vertical walls, and handle oval in section. Red-clay vessels of this type are encountered.

Type 3. In the form of a cup with flat bottom, discharge-lip, rim turned inward, loop-like handle oval in section. Red-clay vessels of this type are encountered.

Type 4. In the form of a cup with annular bottom rest having a cylindrical vessel attached at the center of the bottom inside the cup. The walls of the cylindrical vessel end somewhat below the walls of the cup. Red-clay vessels of this type are encountered (Bulatov, 1976 - 1, p. 84).

Type 5. Same with disk bottom rest. Kashi vessels of this type are encountered.

Division XIV-a. Lids

Type 1. In the form of an open segment of a sphere with mushroom-like handle, with expansion and a groove at the rim. Kashi lids of this type are encountered. Diameter at edge about 20 cm., or 13-14 cm. (Fyodorov-Davydov, 1964 - 2, Illustration 13, fig. 4).

Division XV. Miniature vessels (Bulatov, 1969 - 1).

Type 1. With annular bottom rest and truncated-conical body narrowing upward. The top of the vessel cut off after kilning. Kashi and red-clay vessels of this type are encountered. (Arkheologicheskiye Otkrytiya, 1970, p.177; Fedorov-Davydov and Poluboyarinova, 1976, Illustration 1).

Type 2. (Illustration 33, fig 1). With annular body rest and biconical-truncated body passing into a tall cylindrical neck cut

off after kilning. Kashi vessels of this type are encountered. On one vessel there are two small holes at the neck to hang it by.

Type 3. Same as Type 2, with rounded body. Kashi vessels of this type are encountered.

Dimensions of vessels of Types 1 - 3 are as follows (in cm.,):

Diameter of neck	3	2-3
Diameter of bottom	4	2.5-4.5
Diameter of maximum expansion of body	7	5-7
Height	9	4.5-6.5

Type 4. With annular bottom rest, rounded body, and short cylindrical neck. Diameter of bottom 4.5 cm., diameter of body 7 cm., diameter of neck 2.5 cm., height 6 cm., height of neck 1 cm. (Yegorov and Poluboyarinova, 1974, Illustration III, fig. 10). Kashi vessels of this type are encountered.

Type 5. A vessel consisting of three thick-walled cone-shaped vessels joined together. Kashi vessels of this type are encountered.

Type 6. Small pitchers with a flat bottom, rounded body, conical lip, narrow neck having a sphere-like expansion, thickened straight rim, handle oval in section with its upper part attached to the middle of the neck. Red-clay vessels of this type are encountered.

Type 7. Same as Type 6 but the neck lacks the sphere-like expansion, its upper part expands as a funnel, and the rim is thickened and everted. Red-clay vessels of this type are encountered.

The purpose of these miniature vessels is not clear.

Divison XVI. Inkwells

Type 1. In the form of a cylinder closed above and below, with a small expansion in the upper part. On the upper horizontal surface there is an opening at the center from which a cylinder descends into the interior of the vessel almost reaching its bottom. With this structure the liquid in the inkwell cannot spill. There are scratches from a metal stylus. Kashi vessels of this type are encountered.

Type 2. In the form of a right dodecagonal prism with six depressions at corners of the upper surface and a large depression in the center. Amid the depression there are small oval supplementary depressions. There are again scratches from a metal stylus. Kashi vessels of this type are encountered. Analogies to these inkwells are widely known throughout the medieval Muslim world.

Type 3. With annular bottom rest, low cylindrical body covered above by a horizontal barrier having a round opening at the edge of the vessel. A straight rim rises above this surface. Around

the outside of the upper part of the vessel there is a sharp-edged ridge. The vessel is not glazed inside. Kashi vessels of this type are encountered.

Cylindrical beads (1-2 cm. in size) and buttons shaped like a segment of a sphere with two holes were also made of kashi. These articles were covered with opaque turquoise glaze (Illustration 94, fig. 3-9).

Ornamentation of Kashi Pottery

One cannot describe all the ornamental motifs and designs that decorated glazed Golden Horde vessels. We shall merely point out the most typical and widespread ones, distinguished by T V Skorobogatova, who determined that there corresponds to each group of kashi ware with underglaze painting (with rare exceptions generally in the nature of errors by master potters) a specific form of ornamentation of the outside of a vessel, while there is at the same time a considerable variety in the decoration of its inside surface.

On polychrome relief ware the pattern was usually applied on a white or more rarely a light-turquoise background, and it was accompanied with a slight relief of the body accentuating the main elements of the decoration. A dark-green or more rarely a dark-blue or dark-brown outline of the design and a tinting of the brighter details of the ornament with blue dots and turquoise spots are characteristic. In a range of cases the free background and the lighter parts of the decoration are filled in with fine strokes or points.

The outside of piala bowls is almost always decorated in relief with arched ornament, also usually tinted with blue dots (Fyodorov-Davydov, 1976, Illustration 113). Sometimes the arched ornament on the outside of vessels degenerates into vertical lines having blue dots (Illustration 9, fig. 3), slanting lines, or a section of straight line between them (Bulatov, 1969 - 2, Illustration I, fig. 2). In certain rare cases the outside of a vessel was covered with ornamentation of a different sort - in the form of a band of medallions with blue dots, around which curving arc-like lines, ovals, and dots were arranged (Illustration 11) - a pattern similar to the outside configuration of the bowls of the group next in order.

Ornamentation on the inside of polychrome bowls with relief is of various sorts. Frequently a flower in the form of a circle subdivided by radii into sectors representing petals was placed in the center of the bowl (Illustration 12, fig. 3; Illustration 13, fig. 2, 4). Sometimes such a flower was surrounded by other petals. In other cases a flower was surrounded by one, or two, rings of dotted commas - the so-called "peacock's eye". (Papa-Afanasopulo, 1925, Illustration 10; Grakov and Yakubovski, 1950, Illustration 35; Fyodorov-Davydov, 1976, Illustration 107). This element of decoration is in general frequently encountered on this group of ceramic ware (Illustration 10, 11), sometimes entirely covering the surfaces of bowls without subdivision into zones.

In some vessels a complicated plant ornament of heavy shoots bearing leaves of irregular form develops around the central flower. The shape of the leaves is everywhere the same on ware of this sort, and it is ordinarily found only on this ware. Sometimes the flower is placed in a six-pointed figure and a similar plant ornament is arranged around this (Grakov and Yakubovski, 1950, fig. 36; Fyodorov-Davydov, 1976, Illustration 111). In some compositions with a flower design at the center, other such flowers are placed around it in the form of circles with trapezoidal petals; the flowers are usually connected by stems bearing narrow leaves (Yakubovski, 1931 - 2, Illustration 5, 6; Fyodorov-Davydov, 1976, Illustration 112).

Frequently another element or decoration is placed in the center - a lotus flower. This element was very widespread in the art of Golden Horde and contiguous countries after the Mongol invasion. In a majority of cases the lotus flower is surrounded by leaves or irregular form growing upon two shoots that depart symmetrically from the lower part of the flower (Illustration 10, fig. 1; Illustration 12, fig. 5). Ordinarily the lotus flower with its shoots is positioned in the center of the bowl, in a circle, and around it there are zones with "peacock's eyes" and the Arabic word "success" (Fyodorov-Davydov, 1976, Illustration 104). But ornamental compositions do exist in which there is a flower-rosette at the center and it is surrounded by medallions having a lotus flower without shoots (Fedorow-Dawydow, 1972, Illustration 89; Fyodorov-Davydov, 1976, Illustration 108). Sometimes a lotus flower is placed at the center of a flower-rosette with trapezoidal petals. There are bowls upon which a lotus flower without supplementary shoots has been placed at the center of a composition of round flowers with delicate shoots and leaflets (Illustration 10, fig. 2: Fyodorov-Davydov, 1976, Illustration 109).

In place of the "lotus flower" there would be depicted a flower of trefoils with blue dots and a small circle at the center. Sometimes this would be placed, surrounded by shoots, at the center of the composition in the circle (Illustration 12, fig. 4); in other cases, between medallions in which there might be flower-rosettes or other plant or geometrical elements (Illustration 12, fig. 2).

One frequently encounters small trefoil or quatrifoil rosettes, usually with a blue dot, which are arranged in a separate annular zone ordinarily having double or single vertical lines separating one element from the next. Sometimes these figures cleave to one another, forming a large ornamental field covering all or a considerable part of the inner surface of the bowl.

Of interest is a bowl from the Selitryonnoye site in which the inner side surfaces are occupied by this ornamentation up to the very edge, and the border which is usual for the inside, consisting of a strip of oblique blue lattice-work, is transferred to the outside edge of the vessel, where there is arranged below it the arched ornamentation typical for the outside of a bowl.

Zoomorphous elements are comparatively rare and are limited to representations of an aquatic bird - a symbol of well-being - in the central zone (Illustration 9, fig. 1; Illustration 13, fig. 1), or of a

sphinx accompanied by plant shoots and blue dots (Ballod, 1923 - 2, Illustration 13; Papa-Afanasopulo, 1925, Illustration 10; Yakubovski, 1931 - 2, Illustration 1, 2; Kverfeld, 1947, Illustration XVII; Grekov and Yakubovski, 1950, Illustration 37; Filipchenko, 1958, p. 246, Illustration 1; Grazhdankina and Rtveladze, 1971, Illustration 1, fig. 2; Fyodorov-Davydov, Vainer, and Guseva, 1974, Illustration VIII, fig. 4: Fyodorov-Davydov, 1976, Illustration 110).

Geometrical motifs of ornamentation are represented, in particular, by a six-pointed figure (Fyodorov-Davydov, 1976, Illustration 111; Fedorov-Davydov and Poluboyarinova, 1976, Illustration 2). One bowl from the Selitryonnoye site with such a pattern in the center has on its inner side surfaces four medallions in the form of a bulb, with a simplified variant of the lots flower within each. Between the medallions are plant shoots with leaves of irregular outline.

Sometimes a white circle with a blue lattice drawn with delicate lines was placed at the center. But a more usual arrangement of such a lattice is as an annular strip at the edge.

Epigraphic motifs are monotonous. These are the stylized Arabic word for "good fortune" placed as a rule in an annular band (Papa-Afanasopulo, 1925, Illustration 10; Yakubovski, 1931 - 2, Illustration 3, 4: Grekov and Yakubovski, 1950, Illustration 36; Bulatov, 1969 - 2, Illustration 1, fig. 1; Fyodorov-Davydov, 1970 - 2; Grazhdankina and Rtveladze, 1971, Illustration 1, fig. 1; Fyodorov-Davydov, 1976, Illustration 104, 107, 111; Fedorov-Davydov and Poluboyarinova, 1976, Illustration 2). The epigraphic motif is endowed with a certain resemblance to the plant-shoots that have leaflets of irregular configuration (Illustration 10, fig. 1, Illustration 11).

Annular zones prevail in the ornamentation, but there are also radially disposed compositions. Radial bands and lines break up the whole inner surface of the bowl into trapezoidal areas filled with plant shoots. On the outside a bowl may be decorated at the edge with a belt containing shoots and leaves, and from it vertical strips containing dots may descend (Illustration 9, fig. 2, 3).

Ornamentation of Kashi Ceramic Ware Having Underglaze Polychrome Painting without Relief

This is the most complicated and variegated ceramic group as regards its ornamentation. A color gamut of polychrome ceramic ware with relief has indeed been preserved, but mostly in turquoise, dark blue, and brown hues.

Bowls of this group of polychrome ware have on the outside a broad band containing cross-like figures made up of dark lines or rows of strokes. Between these are blue circles, angles, flowers, trefoils (Fedorow-Dawydow, 1972, Illustration 87). Sometimes the cross-like figures are made more complex by means of supplementary strokes, coils, arcs (Illustration 16, fig. 1; Illustration 19, fig. 2; Illustration

21), which in a range of cases have the look of an indecipherable epigraphic pattern. This ornamental band is supplemented in a number of bowls by a second band of circles with dots (Illustration 21) or by a band made up of complex coils separated by vertical lines. There are bowls in which the outside is decorated with a single broad band bearing ornament of this last sort.

A six-petalled flower (Bulatov, 1969-2, Illustration 1, fig. 6) is often placed at the center of the bowl; around it there are six other such flowers. Between them a complicated network of plant shoots is drawn with a fine line. The shoots are tinted with dots. This ornament forms a large circle along the outer edge of which there is a border of circles separated by vertical thwartwise lines sometimes ending in trefoils. The ornament opens out into a band of light background, and along the edge of the vessel there is a band of trapezoidal medallic elements formed of lines in the form of irregularly shaped brackets; in each medallion element there are four large dots - a motif borrowed from "Timurid" ceramic ware or porcelain. The edge is framed with a continuous heavy dark line, and sometimes with small dots and a wavy line. Sometimes the ornamental scheme becomes more complicated. Between the central circle with the flowers and the white band there is a strip of zigzags (Bulatov, 1976 - 2, Illustration 3, fig. 1).

The flower composition in a central circle which has been described is found with other annular bands on some bowls; for example, with a band of slanting reticulation, after which follows a strip of ovals, and only then a border of groups of blue dots framed by bracket-line lines, and the edge decorated with a continuous dark-green line (Fyodorov-Davydov, 1976, Illustration 116).

Sometimes there was placed within a circle at the center a lotus flower (Illustration 17, fig. 1; Illustration 20, fig. 1) surrounded by shoots (Fyodorov-Davydov, 1976, fig. 105). This motif is similar to some lotus flowers on polychrome ware with relief, but on the whole it is distinct: frequently the design is more delicate, and the shoots are more elegant and take up less space. In some cases the lotus flower has around the circular central unit three symmetrical petals to each side, plus a mushroom-shaped pistil with two leaflets upon it.

Around this central circle there were sometimes set circles with an ornamental motif of a small flower with a round turquoise heart and a blue petal streaked with dark lines (the "peacock's tail"). The same sort of "peacock's tail", but smaller, is placed between these circles in sets of three. At the edge there is a band of leaves drawn with a dark line, reminding one of the leaves of a fern; or a band of oval figures set aslant. The outwardmost narrow strip has figures in the shape of question marks set apart by vertical lines. The edge is framed by a continuous broad blue band. The annular zone with "leaves" and medallions and the zone of "peacock's tails" may exchange places (Illustration 20, fig. 1). When that happens the flowers in the shape of "peacock's tails" may rearrange themselves into a band in a row one after another (Fedorow-Dawydow, 1972, Illustration 88; Fyodorov-Davydov, 1976, Illustration 105). Sometimes a rosette made up of six "peacock's tails" is placed at the center of the cup (Illustration 13,

fig. 3).

There are bowls at the centers of which there is placed within the circle not a lotus flower but a chrysanthemum flower with multitudinous petals.

On some bowls a triangle made up of three twigs with shoots is placed upon a turquoise background within the central circle. From this circle, petals of close to rhomboid shape extend outward along radii. The petals are covered with a blue lattice, and the background between them is filled with dots. This whole zone is outlined by a zigzag-like band with indecipherable epigraphic ornamentation, in which one can guess at the word for "good fortune". This band sometimes has in its indentations small trefoils outlined with white borders. In some cases the epigraphic ornament in these strips degenerates into strokes and dots. At the edge of the vessel zones of stylized indecipherable epigraphic ornament applied in delicate dark lines set aslant, and a ring of blue lattice-work with rhythmically positioned oval medallions, appear concentrically. This last feature is a usual element in the ornamentation of kashi ware with polychrome painting either with relief or without relief (Fyodorov-Davydov, 1964 - 2, Illustration 13, fig. 2, 3).

Some compositions of this type are simpler - for example, with a single central zone and with a blue lattice at the edge.

There is a bowl from the Selitryonnoye site in which the central rosette-flowerlet, supplemented by four extended wedge-shaped figures at its sides, is placed within a square inscribed in another square having rays that extend from its angles. All the geometrical figures are formed by means of fairly broad bands having groups of dots upon them. All of this is set within a circular frame in the form of a narrow strip of ovals set in a chain. Farther out at the very edge there follows a hatched border and a broad dark strip along the edge (Fyodorov-Davydov, 1976, fig. 120).

There are bowls with plant ornament drawn into a six-pointed star-like figure. Between the rays of the star there are palmettes or trefoils. Round about there is an annular band with zigzag ornament.

In some bowls from the Selitryonnoye site (Illustration 16, fig. I) a circle with a six-pointed design is surrounded by an ornamental ring of slantwise-arranged leaves, stroked with zigzag-like and wavy lines; outside this zone is a band of medallions having lotus flowers with mushroom-like pistils drawn into them. Between the medallions there are shoots and leaves (cf. Fyodorov-Davydov, 1964 - 2, Illustration 13, fig. I).

In other bowls with a six-pointed figure or a rosette (Illustration 20, fig 2; Illustration 21) at the center, all the inside flanking surfaces of the bowl are filled checkerboard-fashion with small blue six-petal rosettes having a round heart; these are united with small leaflets by means of delicate shoots (Fyodorov-Davydov, 1976, Illustration 106). This ornament is analogous to the design in the form of round flowers on the kashi polychrome ceramic ware with

relief.

Flower ornaments in the center of a bowl were sometimes drawn into a complex cruciform figure (Illustration 14, fig. 3). At its center there is a small circle with a flowerlet either of rosette or of trefoil formation. At the ends of the cross are medallions also with flowerlets or rhombuses. Beyond the limits of this design there is on one bowl a bright field with dots (Illustration 14, fig. 2), on another a sumptuous flower ornament with four lotuses between the ends of the cross-like figure and with trefoils at the ends of the cross (Illustration 18, fig. 2).

One finds bowls (Illustration 14, fig. 4; Illustration 18, fig. 1) with a small circle at the center, ordinarily containing a flower having trapezoidal areas departing from it radially; these areas are filled with a lattice, with dots, waves, shoots, or with indecipherable epigraphic ornament.

There are bowls the bottoms of which are divided by crosswise-intersecting strips or by narrow triangles into four sectors filled with shoots bearing leaflets (Papa-Afanasopulo, 1925, Illustration 11).

There are also zoomorphic motifs. On one bowl a black and blue drawing of a bird together with plant shoots against a light background is placed within the circle (Illustration 13, fig. 5).

Geometrical ornaments are represented by figures - squares, rectangles, triangles - arranged checkerboard-fashion within the central circle. They are usually cross-hatched with a blue, dark-green, or brown lattice. Light figures that are not cross-hatched bear dots - blue, black, or green. Sometimes the dots are in relief (Illustration 16, fig. 3). In a number of instances polychrome ornament with a checkerboard pattern is combined with the ornamentation of the bowl's outside surface in the form of three rows of commas, which is characteristic for turquoise ceramic ware with black painting. There are bowls having at the center a six-petalled figure in a round festooned frame; after this there is a bright annular belt without ornament, and the whole of the inside flanking surfaces is occupied by checkerboard patterns of similar sort having a blue cage-like cross-hatching in some quadrants and ones having dots in the other quadrants (Fyodorov-Davydov, 1970 - 2).

Another sort of geometrical ornament consists of a square in the center of the bowl, divided into four parts by four narrow oval petals with a blue dot in the center. In the four small square areas formed in this way there are placed either circles divided by two crossing diameters, or small squares also divided crosswise (Illustration 23, fig. 1), or else small rosettes of four petals (Bulatov, 1976 - 2, Illustration 3, fig. 2).

A simplified geometrical ornament is offered by a bowl with an eight-pointed star of strips narrowing toward the center. These strips have white edges. Between them is a slantwise lattice. Around this there is a belt cross-hatched with transverse lines, and at the edge of the bowl there is a border of round medallions with dots at their

centers; wavy lines are set between these. The edge is covered with a continuous blue stripe. The outside of this bowl has the arched ornamentation characteristic for polychrome kashi ware with relief (Fyodorov-Davydov, Vainer, and Guseva, 1974, Illustration VIII, fig. 1).

An indecipherable epigraphic ornament drawn with fine lines is found for the most part on bowls with predominantly plant ornamentation. Yet bowls do exist where a stylized epigraphic ornament is placed in a central squarish medallion, and a strip containing dots lies around it (Illustration 17, fig. 3).

Of interest is a fragment of a bowl with decoration in the form of medallions within which flowers are placed. Around these there is a band in which the word for "good fortune" is written transversely in a naskhi hand (Illustration 19, fig. 1).

One encounters a plaited ornament with "lucky knots" (Illustration 22, fig. 2), squares with four-petal, almost circular rosettes drawn inside them, and four-petal rosettes with squares bearing a lattice cross-hatching drawn inside them and with trefoils at the points of juncture of the petals (Illustration 23, fig. 3). There are bowls in which festooned ornaments forming nuclei in the shape of four-petalled stretched-out rosettes run around a smallish central circle. The background is filled with dots. On one bowl the central circle is filled with a slanting blue lattice.

Among the vessels of enclosed shape having this sort of ornamentation there is a bottle without handles (of type 1) with a lower annular band recalling the outside ornamentation of the <u>piala</u>-bowls - in the form of strips of cross-like figures having circles between them. Above this band there is a belt bearing transverse lines between which leaves everted in the shape of brackets are placed, while the background bears slanted cross-hatching. A broad ornamental zone with a writhing white strip constituting medallions is placed above this; the medallions contain rosettes surrounded by four drawn-out wedges. At the top is an annular band of circles between crosses (Papa-Afanasopulo, 1925, Illustration 12; Yakubovski, 1931 - 2, Illustration 25; Grekov and Yakubovski, 1950, Illustration 39; Bulatov, 1968, p. 101).

There is a single-handled pitcher without pouring lip (of type 2) bearing ultramarine and greenish-brown ornamentation on a light background (Illustration 15). Its lower part is ornamented with vertical strips resting at their upper ends upon a double horizontal strip. The upper part of the body is ornamented with a broad band bearing round medallions with four-petal rosettes within them. Between the medallions are small triangles and strokes and brackets intersecting each other to form crosses - a markedly stylized epigraphic ornament. On the neck there are vertical bands and groups of dots, four between the bands in each case; a band of triangles is placed at the transition between the neck and the body (Fedorow-Dawydow, 1972, Illustration 86; Galkin, 1971).

Ornamentation of Kashi Ware with Underglaze Polychrome Painting and Pierced Decoration

The outside and inside surfaces of bowls with "rice-grain" decoration are outlined at the edge with a band consisting of white oval or rhombic designs in pierced technique with a complex plaited and pseudo-epigraphic ornamentation between these designs. In bowls of this group a small flower in the form of a rosette is set in the central circle. There is a bowl in which the rosette is drawn within a square which is placed inside another square, and between the two is a complex knot of indecipherable epigraphic ornament making use of the Arabic word for "good fortune" (Bulatov, 1976 - 2, Illustration 3, fig. 4).

Ornamentation of Kashi Ware with Underglaze Black Painting and Turquoise Glaze

These bowls were decorated on the outside with large drop-like blotches placed in rows and with their sharpened ends slanting upward (Yakubovski, 1931 - 2, Illustration 16; Fyodorov-Davydov, 1968, p. 125; Fedorow-Dawydow, 1972, Illustration 98). Other bowls were ornamented on their outer surfaces with large dots in sets of four, with teeth at the edge, or with simple arcs. In some cases a strip of lattice with large dots at places where lines intersected was arranged upon the outside surface. There is a bowl on the outside surface of which there are placed at random small black flowers of three petals each.

The inside surface of some bowls is ornamented with dots grouped in sets of four, and the outside surface with arcs, that is to say with a motif borrowed from the ornamentation of kashi polychrome ware with relief. In the ornamentation of the outside surfaces of bowls there are patterns borrowed also from the ornamentation of "Timurid ceramic ware". These will be examined below - for instance, an ornamental stripe with double transverse lines and S-shaped figures between them.

Plant ornaments are offered by bowls with a central circle in which there are represented either multiple-petal flowers having several stems with narrow leaves, growing as though from a single root, or else a lotus flower. Beyond the circle is a broad band of continuous small crosses set checkerboard-wise, and ordinarily diminishing in size toward the edge - a decidedly characteristic ornament for all of this ware. Then there is a narrow strip of zigzag or lattice ornament and a dotted edge (Illustration 26, fig. 5). On other bowls (Illustration 26, fig. 3) an analogous plant ornament in a central circle is bordered by an annular strip with bright dots in relief (Yakubovski, 1931 - 2, Illustration 15, 16). On some bowls the central circle is filled with a pattern of individual leaves having the configuration of narrow ovals (Illustration 26, fig. 1, 2). Sometimes bright dots are placed on dark areas of the design.

More sketchy and geometrized plant ornaments are presented by designs in the central circles of bowls which assume the form of

complex four-petalled rosettes and cross-shaped figures having trefoils enclosed within them, plus supplementary shoots that bear narrow leaves (Illustration 25, fig. 2). One bowl with such a design has flanking walls decorated inside with trapezoidal medallions set upon a ring and containing plant shoots and narrow leaves. The background both of the central composition and of the flank medallions is filled with small hatchings. On another bowl with the same sort of central ornament there runs around it a free annular strip without designs, and beyond this there is a broad annular band of ornament in small crosses arranged checkerboard-wise. Both bowls are from the Selitryonnoye site.

On a bowl from the Selitryonnoye site there is at the center a circle with a six-petal rosette, farther out a narrow belt of festooned ornament, and closer to the edge a broad strip of lotus flowers, trefoils, round fruits, and narrow oval leaves on delicate stems. The petals and the leaves are cross-hatched with a lattice (Fyodorov-Davydov, 1970 -2; Fyodorov-Davydov, 1976, Illustration 114).

There are some zoomorphic motifs on ceramic ware of this sort. These are figures of birds (Ballod, 1923 - 2, Illustration 15), frequently among plant shoots, within the central circle (Illustration 25, fig. 1). There are no aquatic birds.

Geometrical ornaments are represented by lattices having triangular and square cells within which there are small circles bearing three protrusions or dots. Such lattice sometimes cover the whole central portion of bowls.

Epigraphic ornament is represented by rare fragments of bowls of this sort that bear medallions within which one can make out a markedly deformed Arabic word "success". There is both legible and illegible epigraphic ornament, written in a delicate line along the edge of a bowl (Bulatov, 1969 - 2, Illustration 1, fig. 3). A "lucky knot" encountered on one fragment is drawn with a fine line and is apparently a part of some inscription that had adjoined it (Illustration 26, fig. 4).

Vessels of enclosed shapes were ornamented in their separate fashion. Thus, for example, there is a kashi albarello: the upper part of its body is ornamented with black bands; the lower part is divided into squares by means of stripes, and inside the squares are small black crosses (Bulatov, 1968, p. 104).

We are acquainted with fragments of pot-shaped vessels with a pouring lip (type 1) that have at the center of their inside a circle with a representation of plant shoots and birds, with hatchings between them. On its circular frame there are laid out triple and double coils with radial strokes between them. Farther out there follows a broad annular strip free of ornament, and at the edge there is a toothed border. These vessels have outside an upper annular zone with birds and shoots and a lower zone of rows of slanting brackets (Illustration 24).

There is a pot-shaped vessel with a pouring lip (type 1) from the

Selitryonnoye site, painted checkerboard-wise with four-petalled rosettes in the upper part of its outward surface and with a band of small arches on the lower part of its outward surfaces (Illustration 14, fig. 1). This ornamentation has been borrowed from the group of polychrome ceramic ware with relief.

A miniature bi-trapezoidal vessel (type 2) is decorated at the upper part of its neck with an ornament of plant shoots and small birds (Bulatov, 1969 - 1, Illustration 1, fig. 5). An inkwell is decorated in the same way (type 1). Other miniature vessels (types 2 - 3) are decorated with simple vertical black stripes between which there are sometimes dots (Sarai 497, 508, 534 (this refers to the Sarai collection made by Tereshchenko and now at the State Hermitage - Tr). Vessels of the same sort have sometimes a markedly stylized epigraphic pattern in the form of the Arabic word for "good fortune" (Sarai 494). A miniature vessel (type 1) is decorated with a band of bright letters on a black background; they convey the same word (Arkheologicheskiye Otkrytiya, 1970, p. 177; Fedorov-Davydov and Poluboyarinova, 1976, Illustration 1).

Ornamentation of Kashi Ceramic Ware with Cobalt Underglaze Painting

T. V. Skorobogatova has determined that this so-called "Timurid ware" is divided, as to the ornamentation of its outside, into several sorts. Bowls of the first sort have no ornamentation at all on the outside, or they are (rarely) decorated with vertical lines resting at the top upon a horizontal line along the edge of the vessel. We find one dot, or several dots, at the center of the inside of the bowls, and dots run along the edge. This earliest sort of cobalt ware is more frequently found at the Tsarevo site. There are bowls with a great number of dots filling a broad band at the middle (Bulatov, 1974, Illustration 1, fig. 3-6; Bulatov, 1976 - 2, Illustration 3, fig. 6; Shlyakhova, 1980, Illustration 2, fig. 1, 2, p. 78, 79).

One may regard as being a development from this ornament the decoration of bowls in which the edges are covered with the same sort of dots and in the center there is a six- or seven-petalled flowerlet (Bulatov, 1976 - 2, Illustration 3, fig. 3; Shlyakhova, 1980, Illustration 2, fig. 3, 4, 5, p. 79-80). There is one little bowl with this sort of decoration and an inscription (Illustration 28, fig. 3). Bowls of the first sort are usually small (diameter 4 to 4.5 cm).

Bowls of the second sort are characterized on the outside by arched ornament in the form of vertical lines with a horizontal cover at the very edge as a straight line (Illustration 29, fig. 1) or as a figural staple (Illustration 28, fig. 1). A stylized flowerlet, a shoot, an S-shaped figure, or a spiral is placed within the archway (Shlyakhova, 1980, Illustration 3).

Strips at the edge with elaborate or with more modest plant ornaments are typical for the inside ornamentation of these bowls (Shlyakhova, 1980, Illustration 4, fig. 5, 6). In this ornament there

were sometimes placed, among shoots bearing oval leaves or trefoils, lotus flowers having an oval heart, in some cases cross-hatched, with a small double leaf above them, and also small round rosettes with multiple petals (Illustration 27; Illustration 30, fig. 4).

Irregularly-shaped rounded horizontally-extended figures of sprouts crowned with leaves were also placed among plant shoots. In other cases a plant shoot in the form of a "running spiral" was also placed in an outermost ornamental annular band (Fyodorov-Davydov, 1976, Illustration 119).

These same plant ornaments were placed in the central fields of bowls (Illustration 29, fig. 1, 2; Illustration 30, fig. 2, 3).

The same principle that was exemplified on certain vessels with polychrome underglaze painting is characteristic for the placement of bands of ornament on some bowls: when the inside flanking surfaces are occupied by a single broad decorative zone and on this account there remains no space for a border, the border is carried over to the edge of the outside surface of the bowl, and the pattern which is typical for the outside surface is placed below this border.

Bowls of this group frequently have at their centers a flower pattern in the form of shoots emerging from a single point having a central flowerlet in the form of a multiple-petalled rosette (Shlyakhova, 1980, Illustration 4, fig. 7), or alternatively in the form of a rough, knotty tree with flowers and leaves (Bulatov, 1974, Illustration 2, fig. 7). Compositions ordinarily preserve symmetry relative to a vertical axis; the design has a "top" and a "bottom" (Shlyakhova, 1980, Illustration 2, fig. 7). In some cases the ground from which the shoot emerges is shown as a strip beneath the composition. Sometimes this ground is shown with plant life, as it were, rendered as hatchings and droplike masks. On one bowl (Illustration 27, fig. 1) three "ground" lines with plant life from which emerge three shoots bearing multiple-petalled flower-rosettes, leaflets, and trefoils are placed within a large circle (Fyodorov-Davydov, 1976, Illustration 119).

Flower bouquets seemingly tied underneath with ribbons in the form of horizontal strips or lines are shown (Illustration 30, fig. 1). Above these bunches there are represented figures of indeterminate shape analogous to that of the indeterminate elongated figures referred to above as being at the borders of "Timurid" bowls.

An interesting bowl is one in which a flower composition made up of flowerlets having bulb-shaped hearts with petals around them , shoots bearing leaves, and dots, is placed in a large central circle. The composition has axial symmetry. At the center there are two large leaves with a calyx between them; from it a further pair of shoots bearing trefoil flowers and leaflets emerges (Fyodorov-Davydov, 1976, Illustration 115).

One finds cases, although rarely, where in the presence of a central circular decor there is a breakdown of the flanking surfaces of the bowl into sectors by means of radial strips, the sectors enclosing

plant shoots with flowers, and a ground grown over with grass being in evidence (Fyodorov-Davydov, 1966 - 2, Illustration 5, fig. 2).

A different design for a central ornament, also of a plant nature but more geometrized, appears on a bowl (Illustration 27, fig. 2) on which plaited circles of stylized plant shoots are placed within a large circular frame. In the border there is an elaborate plant ornament of the sort described (Arkheologicheskiye Otkrytiya, 1975, p. 160; Shlyakhova, 1980, Illustration 3).

Zoomorphic ornament is represented by a limited number of bowls with images of birds with flattened wings and a long, seemingly fluttering, tail indicated by wavy lines. The bird is surrounded by plant shoots and is placed in a large circle at the center of the bowl (Bulatov, 1969 - 2, Illustration 1, fig. 7; Bulatov, 1974, Illustration 1, fig. 10). We have fragments of a bowl that bear a bird shown in profile. Sometimes small birds are enclosed in a plant ornament within a round central area.

On bowls painted with cobalt on a white background one encounters epigraphic borders on which Persian verse insciptions are placed. In the center of the bowls there is a round field with plant shoots and birds. Such bowls are known from the A.V. Tereshchenko Tsarevo collection, from the Vladimir-Volynski excavations (Arkheologicheskiye Otkrytiya, 1976, p. 327), and from the Selitryonnoye site.

Bowls of a third sort have openwork ornamentation in "rice-grain" technique. The outside of these bowls is usually outlined by large triangular festoons with plant shoots and openwork ornament or by a white strip with piercings at the top. Below and above this strip there also ran a plant shoot. The inside surfaces of the bowls had the same sort of edge and a central composition on the whole analogous to the central decor of bowls of the second group (Illustration 29, fig. 3). A motif of a running spiral was utilized for decoration of bowls of the third group (Shlyakhova, 1980, Illustration 2, fig. 6; Illustration 4, fig. 1).

Closed forms of Timurid ware have ornaments in the form of strips of flower-rosettes and shoots bearing leaves (Illustration 23, fig. 4). Rosettes alternate, on potlike vessels having pouring lips, with conical projections decorated at their bases with festoons (Shlyakhova, 1980, Illustration 4, fig. 4).

The lower zone of the vessel is ornamented with arches made up of figural arcs - a characteristic motif for the outside surfaces of "Timurid" pialas.

One should in general note that potlike vessels, but also sometimes bottles, in all groups of glazed ceramic ware having underglaze painting were ornamented so that the lower area of the outside surface was filled with a motif characteristic for the outside surfaces of bowls of the corresponding group, and the upper area with a motif typical for the inside surface of these same bowls. In this way the order of decorative zones accepted in bowl decor is retained.

We are acquainted with four bottle-like vessels (without handles; type 1) from the Selitryonnoye site that have ultramarine cobalt painting. They have several ornamental bands of varying widths. On one vessel a broad band is occupied by medallions of complex outline bearing flowerlets the hearts of which are bulb-shaped and have petals at their edges. Shoots with elaborate foliage depart in all directions from the flowerlet. Between medallions there are vertical shoots with a trefoil, fruits, and leaves. Above this zone there is a narrow ornamental one bordered by white stripes and consisting of a plant shoot and flowers that run along this strip. Above it the neck is decorated with a broad band of zigzagging lines (Fyodorov-Davydov, 1976, p. 117).

The bodies of a second and a third vessel are ornamented with strips, of leaves in one case, in the other of leaves and elaborate rosette-flowerlets having round cross-hatched hearts. Complex shoots run between these (Fyodorov-Davydov, 1976, Illustration 118; Shlyakhova, 1980. Illustration 4, fig. 3).

A broad zone on the body of a fourth vessel of this form is decorated with the figure of a serpentine dragon writing among shoots (Fedorow-Dawydow, 1972, Illustration 90).

Ornamentation of Ceramic Ware Having Turquoise and Ultramarine Glaze with Relief

In ware of this type there are pot-like vessels with pouring lip (type 1) which are ornamented with a stripe on the outside in the form of the Arabic word for "good fortune" repeated over and over again between relief projections, and also with relief dots set beneath these inscriptions. The thin layer of glaze at the projecting points created an effect of a white tone (Grazhdankina and Rtveladze, 1971, Illustration 1, fig. 4).

At the Selitryonnoye site fragments of a large vessel with a relief frieze conveying riders, one after another, amid plant and epigraphic ornaments were brought to light.

Ornamentation of Kashi Ceramic Ware with Overglaze Painting

Ordinarily such ware has gilding with delicate gold leaf. The gilding details of the ornament are always outlined with red lines. The predominating motifs of polychrome decor on a white background, imitating Iranian ware of "minai" type, were: a plant shoot with delicate twigs, stylized narrow leaves, and round fruits; and: small six-petalled rosettes with rectangular petals (Illustration 33, fig. 5), frequently with supplementary oval and round leaves (Bulatov, 1969 - 2, Illustration 3, fig. 3). Figures of diamond-rhombus shape with small squares at the acute angles, figures in the form of a letter W, "lucky knots" drawn with delicate lines, are characteristic (Latysheva, 1971, Illustration 4; Fyodorov-Davydov, 1976, Illustration 100). The lotus flower is rare, but it does appear. Borders are often framed

with a plant shoot bearing small even-petalled rosettes, leaves of complex configuration, heavy fruits, and dots. In the bowls of this sort there were placed on the outside either spiralling and wavy red lines with small blue dots (Latysheva, 1971, p. 224, Illustration 4), or bordering bands of white rectangles on a red background (Fyodorov-Davydov, Vainer, and Guseva, 1974, Illustration VIII, fig. 3), or strips of plant ornament, or else interweaving zigzag strips with dots between them (Illustration 33, fig. 5).

On this ware one encounters epigraphic and pseudo-epigraphic ornament (Illustration 33, fig. 4). For example, Persian verses written in naskhi script in an annular belt running along the edge and interrupted by round medallions containing six-pointed gilded star-rosettes (Fyodorov-Davydov, 1966 - 2, Illustration 3; Fyodorov-Davydov, 1976, Illustration 100).

Characteristic for ware with polychrome red-white-gold painting on ultramarine glaze are certain motifs encountered also on ware with a white background and overglaze painting, particularly gilt six-pointed star-rosettes and W-shaped figures. A bottle-like vessel without handle (type 1) is known that has a lower ornamental band filled with such stars in round medallions. Between the medallions there is a delicate plant ornament done mainly in white lines. Above this zone there is a belt running along the middle of the body at its greatest diameter and made up of W-shaped patterns; it is bordered with white lines. Above this is a broad zone bearing large circles in which there is placed a geometrical pattern composed of six-petalled rosettes in which each petal is a rhombus drawn in red lines with white dots within it. Between the circles are spiralling white plant shoots and six-petalled gilded starlet-rosettes. A narrow upper belt is made up of W-shaped figures (Grekov and Yakubovski, 1950, Illustration 40; Fyodorov-Davydov, 1976, Illustration 102, 103, p. 104). Belts of W-shaped figures are apparently markedly stylized epigraphic ornaments going back to the Cufic script of Arabic.

There are fragments of polychrome bowls with an ultramarine background (Illustration 31, fig. 1) decorated with the same sort of ornamental elements as those on the bottle described above, but in different combinations (Fyodorov-Davydov, 1966 - 2, Illustration 5, fig. 1; Fedorow-Dawydow, 1972, Illustration 99).

There is a pot-like vessel (type 1) decorated with a broad epigraphic belt of gilded letters outlined in red (Illustration 31, fig. 2; Illustration 33). This belt is broken apart by four round medallions bearing multiple-petalled starlet-rosettes. Below it runs a narrow strip of rosettes and vertical white crossing lines with split ends. All the lower part of the vessel is occupied by white rosettes. A strip of dots and small rosettes separated by the same sort of white transverse lines with split ends also runs along the edge of the vessel (Fyodorov-Davydov, 1978 - 2, Illustration 2).

A fragment of kashi ware with ultramarine glaze and overglaze gilding, upon which cross-shaped figures have been applied, comes from Uvek. Depressions were made in the kashi before glazing, and they fall between these figures (SKM No. 188).

Ornamentation of Red-Clay Glazed Ceramic Ware Painted with Engobe

This ornamentation is in many respects analogous to the patterns of kashi vessels. On bowls a flowerlet-rosette was placed at the center, with shoots of plant ornament bearing complex round flowerlet-rosettes departing from it. Geometrical ornaments are for the most part limited to the composition of a central circle divided into sectors by radial lines, and to annular bands bearing geometrical decorative elements. The outside of bowls was usually not ornamented. But sometimes one encounters arched ornament or a simplified variant thereof in the form of vertical strips resting their upward ends upon a broad band that runs along the very edge of the bowl (Bulatov, 1976 - 1, p. 81, Illustration II, fig. 3-6). There are bowls with such bands on the outside surface and a continuous covering with engobe, but no ornamentation inside (Bulatov, 1976 - 1, p. 81). One encounters such elements as the "peacock's eye", brackets, trefoils, and stars at the center of a bowl (Illustration 34, fig. 2), medallions bearing a plant shoot, and the like (Bulatov, 1976 - 1, p. 81, Illustration II, fig. 6). We are acquainted with a dish the center of which is occupied by a smallish solid circle and the inside flanking surfaces by a writhing and looping line that creates a division of the surface into medallions in which (save for one) small circles are placed. Between the continuous line at the edge of the dish and this writhing ornamental line plant shoots are placed (Bulatov, 1976 - 1, Illustration V, fig. 8).

One encounters small vortical rosettes at the centers of bowls, sometimes with an epigraphic motif (Ballod, 1923 - 1, Illustration 24; Papa-Afanasopulo, 1925, Illustration 4; Bulatov, 1969 - 2, Illustration 2, fig. 4).

Epigraphic ornament is represented by the Arabic word for "good fortune" (Bulatov, 1976-1, Illustration VII, fig. 8). The band of these inscriptions is very similar to the style of the inscriptions on polychrome kashi ware with relief (Illustration 34, fig. 1). There is a strip containing the word for "good fortune" in approximately this same configuration on the outside of a beaker-shaped vessel with green glaze (Bulatov, 1976 - 1, Illustration II, fig. 8; Illustration VII, fig. 8).

On one bowl a lotus flower and shoots growing out of a single point at the heart of the flower are represented in the central circle. The edgemost concentric bands are occupied by stylized epigraphic ornament and a strip of rhombuses (Illustration 35, fig. 2). The outside of this bowl bears a simplified arched ornament. On another bowl also having arched ornament, simplified to the point of becoming mere vertical lines, small arches having dots at their centers are applied on the inside around an empty circle at the center and at the edge of the vessel.

Bowls are encountered (Illustration 34, fig. 3) on the inside of which the ornament consists of circles with dots, strewn about the ornamental field (Bulatov, 1976 - 1, p. 79-80). There are bowls with

simple geometrical ornament in the form of round areas divided by radial strips into sectors (Bulatov, 1976 - 1, Illustration II, fig. 5). Dots and spirals were placed between the lines. There are bowls with a circle at the center and figures in the form of three lines joined together as a fan, these figures being set in circles.

One also encounters painting with rectangles arranged checkerboard-fashion. Within the rectangles are spots applied in engobe (Bulatov, 1976 - 1, p. 80).

In another instance engobe is used to represent a rhombic figure in the center, divided into four parts with dots within each, and radial lines departing from a broad band at the edge of the vessel toward the center but not reaching it. A simple arched ornament is placed on the outside of this bowl (Bulatov, 1976 - 1, p. 80 Illustration II, fig. 3).

Sometimes a bowl was covered with spots of irregular shape strewn evenly over the whole inside surface (Bulatov, 1976 - 1, p. 80, Illustration II, fig. 7). Sometimes an ornament in the form of concentric circles was placed among these spots (Illustration 37, fig. 1).

On one bowl the whole inside surface, except for a small circle in the center, was filled with the cruciform figures proper to turquoise kashi ware with black painting. This is a clear simplified borrowing of the ornamentation of kashi ceramic ware (Bulatov, 1976 - 1, p. 81, Illustration II, fig. 2).

A bowl exists which is decorated with narrow strips of circlets applied in engobe, these strips being arranged reciprocally perpendicular to each other on the surface of the bowl in such fashion that the center of the bowl remains free (Bulatov, 1976 - 1, Illustration II, fig. 1).

Ornamentation of Red-Clay Glazed Ceramic Ware with Incised Decoration and Sgraffiato (Reserve)

These bowls do not as a rule have ornament on the outside, or they do so very rarely - in the form of vertical lines.

The central inside part of the bowls is occupied by intersecting strips forming either cross-shaped ornament (Ballod, 1923 - 1, Illustration 4), or lattice ornament (Fyodorov-Davydov, Vainer, and Guseva, 1974, Illustration V, fig. 31). On some bowls a small cross is formed at the center with four broad strips (Bulatov, 1976 - 1, Illustration VII, fig. 2, 6).

On other bowls the central composition consists of straight and wavy lines intersecting at the center. This forms, as it were, radially arranged bands that narrow at the center and have wavy or spiralling lines within them (Bulatov, 1976 - 1, Illustration V, fig. 2).

There is a bowl on the bottom of which is a double circle with four small arcs within it (Illustration 38, fig. 2). Bowls are found with a figure made up of six arcs at the center and an annular zone around it, created by interweaving two strips each of which has at its center an incised line of dots. Upon intersecting the strips form circles, cross-hatched with a slanting lattice (Ballod, 1923 - 2, Illustration 12).

Small rosettes with various sorts of lines within them (hatching, plaitings, straight and wavy lines, spirals, etc.) were the most widespread item in the central field of bowls, frequently with spirals between petals (Fyodorov-Davydov, 1966 - 2, Illustration 5, fig. 3; Fyodorov-Davydov, Vainer, and Guseva, 1974, Illustration VII, fig. 3, 4, 8-9, 11, 13; Guseva, 1974, Illustration 9, fig. 6; Bulatov, 1976 - 1, Illustration III, fig. 1, Illustration VII, fig. 1, 4, and Illustration VIII, fig. 2). Medallions containing a lotus flower were sometimes placed between the petals (Fyodorov-Davydov, Vainer, and Guseva, 1974, Illustration VII, fig. 3). Sometimes the motif of rosettes was combined with that of radial strips, forming at the center a square with a small circle in its middle (Bulatov, 1976 - 1, Illustration III, fig. 4). The motif of a vortical rosette in the center was used (Illustration 43, fig. 1).

Various sorts of figures plaited of narrow strips were widespread on bowls of this group (Illustration 38, fig. 1), with the background filled mainly with spirals (Fedorow-Dawydow, 1972, Illustration 83; Bulatov, 1976 - 1, Illustration III, fig. 3, Illustration IV, fig. 3, Illustration VII, fig. 3; and Illustration VIII, fig. 3). There is a bowl in the ornamental scheme of which the motif of a central six-petalled rosette is conjoined with a plaited figure of three ovals at the center of the rosette (Fyodorov-Davydov, Vainer, and Guseva, Illustration V, fig. 32; Guseva, 1974, Illustration 10, fig. 3). On bowls of the group being described there are many patterns in the form of palm leaves, an everted palm shoot with oval and figural leaves, trefoils, flowers, and spiralling tendrils (Illustration 39, fig. 1; Illustration 40, fig. 1; Illustration 41, fig. 1, 2, 3; Illustration 42, fig. 2; Bulatov, 1976 - 1, Illustration VIII, fig. 1). In some cases plant shoots spring from the ground, represented by an arc in one part of the circle (Bulatov, 1976 - 1, Illustration IV, fig. 5). There is a bowl with an image of what is evidently a stylized lotus flower in a large circle (Bulatov, 1976 - 1, Illustration III, fig. 5). In certain cases (Illustration 42, fig. 3) plant shoots and leaves are markedly geometrized (Fyodorov-Davydov, Vainer, and Guseva, 1974, Illustration VII, fig. 1; Guseva, 1974, Illustration 9, fig. 4, 5; Bulatov, 1976 - 1, Illustration IV, fig. 4; Illustration VII, fig. 10).

Zoomorphic motifs are represented by birds with long legs, sometimes having a complicated design within the contours of the body. Plant motifs are placed around the birds, in the form of one or of two palm leaves (Bulatov, 1976 - 1, Illustration IV, fig. 2). Images of fish with dorsal fin and scales in the form of trefoils, accompanied by supplementary plant shoots, are encountered (Fedorow-Dawydow, 1972, Illustration 84, 85; Bulatov, 1976 - 1, Illustration VII, fig. 7; Fyodorov-Davydov, 1976, Illustration 134). There is one dish with the image of a lion, the background filled with radial lines. There is a

fragment of a vessel with an image of a rabbit (Fyodorov-Davydov, Vainer, and Guseva, 1974, Illustration VII, fig. 2; Illustration VIII, fig. 2; Fedorow-Dawydow, 1972, Illustration 97; Fyodorov-Davydov, 1976, Illustration 101).

Vessels of closed shapes were ornamented in another way. Albarellos were often decorated with vertical ornamental stripes on the cylindrical part of the body (Illustration 39, fig. 2, 3), but also with slanting lines conveying, so to speak, a screw-thread on the cylindrical body with its compressed sides ending in an arched tip at the upper end (Sarai 239). In other cases these forms were decorated with annular bands and with simple geometrical figures - zigzags, "Christmas-trees," or cross-hatching - in the upper part of the body (Papa-Afanasopulo, 1925, Illustration 6; Grekov and Yakubovski, 1950, Illustration 42).

Other arabellos are decorated on the body with oval figures or with ones running to a point downward. Between these are rectangles, triangles, spirals, and leaves (Sarai - 243, 294, 295, 394; Papa-Afanasopulo, 1925, Illustration 6; Kverfeld, 1947, Illustration V; Grekov and Yakubovski, 1950, Illustration 41). There is an arabello with arched ornament on the cylindrical part of the body; between the arches there are spirals, the upper end being ornamented on the same principle as in the case of the first two arabellos. There is an arabello the cylindrical part of the body to which is decorated with elongated vertical rectangles having a "Christmas-tree" ornament within them; annular bands in the upper conical part are decorated with a stylized epigraphic motif (Bulatov, 1976 - 1, p. 88-89, 93).

There is an arabello ornamented with two circles, having a geometrical figure in each, on opposite sides of the cylindrical part of the body; between them are lenticular figures; all the rest of the surface is ornamented with vertical lines.

There are variants of this ornamentation scheme that have four circles (Bulatov, 1976 - 1, p. 91; Sarai 288). We are also acquainted with an arabello on which the whole cylindrical part of the body is filled with cross-hatched and vacant squares and rectangles set out checkerboard-fashion; the upper conical part of the neck is ornamented with slant-wise cross-hatching (Bulatov, 1976 - 1, p. 98).

A pitcher was found at the Tsarevo site which is decorated in the following manner. Its body is divided by horizontal lines into three ornamentational zones. The lowest, in the form of a narrow belt, has spiralling patterns set apart by vertical lines. The highest, a broad belt, has four arcs drawn with a double line having small circles between the lines. Inside the arcs, trees reminding one of pyramidal poplars have been introduced in reserve technique. Between the arcs are an oblique lattice, diamonds, and small rosettes. On the conical throat is a pattern in the form of vertical and horizontal bands; in every other one of the small rectangles thus formed there are crosses and dots (Bulatov, 1976 - 1, p. 91; Sarai 138).

The Influence of the Artists'-Crafts Centers of Various Lands on the Glazed Ceramic Ware of the Golden Horde

The memorials of the Golden Horde period on the Ural River - Saraichik (Agapov and Kadyrbayev, 1979, p. 187-193) - and in the North Caucasus steppe - Madjar (Dudko, 1963) - had a complex of kashi ceramic ware resembling that of the lower Volga; the same was true of Azov to a certain extent. Unquestionably local distinctions will in the future be put on record as regards the ornamentation of kashi ceramic ware in these centers. To the west of the Golden Horde - in the Crimea, in the Dniestr basin, and on the Dniepr - kashi ceramic ware is rarely encountered, evidently only as an import from the Volga area.

The ornamentation and technique of making pottery with polychrome underglaze painting finds its closest analogy in the ceramics of Khorezm and of the cities on the lower reaches of the Syr-Darya. This was noted long ago, and the idea that Khorezm masters had participated in initiating the ceramic craft in the Golden Horde Volga basin has been advanced (Yakubovski, 1931 - 2; Kverfeld, 1947, p. 90; Bulatov, 1968). There are analogies to ceramics of our type as regards technique, sometimes with similar ornamental elements, in more southerly districts of Central Asia as well. In particular the motif of the "peacock's eye," characteristic for ceramics having polychrome underglaze painting on relief, was known in the ceramics of Central Asia and Iran even before the Mongol conquest (Bulatov, 1969 - 2, p. 49).

Pottery with black painting under turquoise glaze, known in Iran as early as the XIIth century, spread far and wide through the Muslim world in the XIIIth-XIVth centuries. Uniform in technique and palette, it differs in each region as to subject matter and design motifs. Investigators consider that its prototype was the "Siculo-Arabic" lustre bowls with light-blue background (Kverfeld, 1947, p. 62; Bulatov, 1968, p. 103; Bulatov, 1969 - 2, p. 51). The Golden Horde vessels of this type are closest to the Khorezm ceramic ware with turquoise glaze and black painting. There are Khorezm analogies to the ceramic ware having turquoise glaze and white dots in relief.

The influence of porcelain with dark-blue cobalt painting upon kashi ceramics with dark-blue cobalt painting against a white background is beyond question. But this influence is felt in wares having rich plant ornamentation - in the treatment of flowers, shoots, clouds, birds, dragons. The initial phases of the coming into being of this sort of ceramic art, commencing with modest dots at the center, gradually sprouting into flowerlet-rosettes, do not reveal any such effect. The motifs borrowed from porcelain and appearing on this ceramic ware are found, as we have seen, side by side with genuinely Golden-Horde motifs (Shlyakhova, 1980, p. 85-86). An analogous process of building up the decor of ceramic ware with cobalt painting ran its course in Central Asia and in the entire Middle East (Bulatov, 1974, p. 140). The forms of bottles that made their appearance in the Yuan period were borrowed from the porcelain with cobalt painting.

The pierced "rice-grain" technique was known in Central Asia only

from the XVth century onward, but in Iran and Transcaucasia from the pre-Mongol period and in the Golden Horde from the end of the XIVth century (Kverfeld, 1947, p. 92).

Overglaze polychrome paintings on white and turquoise background are certainly a carry-over of the pre-Mongol Iranian "minai" technique, and they find analogies also in later (XIIIth-XIVth century) ceramics in Iran and Central Asia. Iranian and Central Asiatic parallels to Golden Horde ceramics with polychrome overglaze painting on an ultramarine background are numerous and very close, mainly in the architectural ceramics of Central Asia and Azerbaijan.

Thus Golden Horde kashi pottery is very similar to the Central Asiatic both in technique and in ornamentation. Its output was built up under the influence of the industry of Khorezm, to a less degree under that of other regions of Central Asia and of Iran. Certain effects upon the make-up of the ornamentation of kashi ceramics were exercised by the ceramics of Transcaucasia; in particular, the motif of small arcs exists in the XIIIth century ceramics of Ani (Bulatov, 1969 - 2, p. 49-52; Shelkovnikov, 1957, p. 38). But the ceramic ware of the end of the XIIIth century also gives rise to a new style at Khorezm itself and in Iran. During the period of Mongol conquest, of intermingling of peoples, of shuffling of traditions in the crafts centers, a new style sprang up in the enormous empire administered by the Mongols, and it is vividly reflected in ceramics - probably a little earlier at Khorezm than on the Volga (but not earlier than the second half of the XIIIth century), because at Khorezm there were ancient practices in the production of glazed pottery; but thereafter this variant of the new style took root on the Volga as well, and it became most manifest of all in polychrome kashi pottery.

Another impulse came from the areas where red-clay pottery with painting and incising - going back to the Byzantine orbit of the potter's craft - had been disseminated since older times: namely, from the Crimea and Transcaucasia. Glazed red-clay ware offers few analogies with Central Asiatic material. Yet certain ones do exist. For example, painting in engobe under turquoise glaze is found in the ceramics of Samarkand and Khorezm (Bulatov, 1976 - 1, P. 76). Covering with two glazes, yellow and green, occurs in the ceramics of medieval Central Asia (Bulatov, 1976 - 1, p. 93).

In the glazed red-clay ware of the Golden Horde there are considerably more elements borrowed from the ceramics of the area where the potter's craft assumed form and developed under the influence of Byzantine forces. Byzantine recipes for glasses exercised definite influence, through the medium of the Crimea, upon the composition of the range of formulas for Golden Horde glazes (Bulatov, 1976 - 1, p 78).

In Byzantium, the Crimea, the Caucasus, and Hither Asia painting with engobe under glaze was widespread in the XIIth-XIVth centuries. Painting with engobe involving circles and, sector by sector, broad radial bands having wavy and spiralling lines incised within them apparently goes back to Transcaucasian and Crimean prototypes (Yakobson, 1950, p. 193, Illustration XXV; Bulatov, 1976 - 1, p. 79).

There are analogies to the ornaments in the form of flowerlets, in the form of checkerboards, in the form of diamonds, among the ceramics of the medieval cities of Transcaucasia (Bulatov, 1976 - 1, p. 80).

Vessels of albarello type are met with on a decidedly extensive scale in Transcaucasia, in the Crimea, and in the Near East. They are also present in Khorezm. But there are few of them in Central Asia. This form seems to have been borrowed from the pottery craft of Transcaucasia and perhaps of the Crimea as well. The ware with spotted green glaze apparently had Byzantine sources.

Ware with incision and with painting on engobe, exhibiting failure of drawn boundaries to coincide with pigmented area, evidently had Transcaucasian sources. It has close analogies in the ceramic art of Transcaucasia, where it is in its turn linked, through close analogies, with ceramics of the XIIth-XIVth centuries in western Turkestan. A bowl bearing a lion amid a surround of radial lines has analogies in ceramics from Ani.

The most widespread sort of ornamented, glazed red-clay ceramic ware - that with incision and reserve on engobe - is comparable, in the technique of its ornamentation, with that of Chersonesus (Yakobson, 1950, Illustration XVII, XX-XXIII), and particularly with that of Transcaucasia, and is altogether distinct from that of Central Asia, including the Khorezm ware. One should note that among the Golden Horde pottery of these types there are almost no zoomorphic or anthropomorphic subjects, but there are a great many spirals, wavy lines, and tendrils, whereas in the Transcaucasian and Crimean ceramics analogous in technique there are few spiralling lines but many representations of animals and human beings.

The "reserve" (sgraffiato) technique is widely found among the ceramics of Byzantium, Chersonesus, and Transcaucasia; it is encountered almost not at all in its pure form in Golden Horde ceramic art, and it is everywhere associated with the technique of incision with a fine line or with a broad one. Such a combination was also typical for the ceramics of the XIIth-XIVth centuries from Transcaucasia and the Crimea.

Ware with yellow glaze has particularly close analogies in eastern Transcaucasia. It is a characteristic that there is more of it in the north Caucasus cities - Madjar and Azak - than in the Volga area (Bulatov, 1969 - 2, p. 56).

The comparative poverty of forms of the glazed ware is made up for by the incredible chromatic array and diversity of the ornamentation. The artists who painted the dishes were full of fancy and exhibit great freedom in painting. The glazed ware stands before us as a sea of colors both vivid and variegated, and as an abundance of patterns and compositions. But this variety and color nevertheless display a definite style.

A characterization of this artistic style cannot be provided through a mere listing of ornamental elements and compositions. Only the methods of artistic analysis are suitable to this end (Fyodorov-

Davydov, 1976, p. 125 ff.).

The Style of the Ceramic Fine Art

The style of ceramic fine art in the Golden Horde cities is characterized above all by a trend among the painters that was expressed through the following manifestations:

- violation of the tectonics of decor, involving partial failure of ornament to correspond to the structure of the ceramic product;

- endowment of the entire ornamental system with a sensation of a universally present overall motion that draws together all parts of the decor;

- blurring of lines, a striving to overstep the sharpness of a drawing and of lines in the interest of creating a general pictorial effect;

- adornment of the ornament with dots of various colors, creating reflections on the surface of the article and also drawing from it a general pictorial impression;

- in a number of instances, giving the pattern of the ornamentation a "top-and-bottom" effect.

The porous white mass of kashi as the basis upon which transparent and colored glazes were laid gave them a special luminescence, making the design vivid and the glazes deep, as though lighted from within. This effect was enhanced by the contrast between the surface of the rounded walls of bowls, where the stratum of glaze was thin and where the delicate relief of the body brought out the main lines of the ornament, and the thick smooth layer of glaze at the bottom, beneath which the colors of the painting glittered.

In kashi ceramic ware, ornamental compositions dividing the surface of the vessel into zones emphasizing its structure and shape are almost always indispensable. The division is accomplished on the principle of a harmonious relationship between clearly denoted parts, a unity among which is achieved through the proportionality of their breadth to the diameter; through correspondence to the form of the vessel, to its structure; through symmetry of the rhythms of the ornament within these zones. But in the process there are factors which, as it were, unify this disarticulated ornament and endow the surface with the breath of light in all its parts. For example, the artistic device of random sprinkling with readily perceptible dots standing out sharply through their color is skillfully employed. They constitute a potent unifying factor and serve to provide guidance to the movement which, commencing from the center, disperses at the edges of the vessel, like wavelets from a cast stone that spread and peter out at the edges of a pool. Among these factors one must also mention the framing of a background with small black dots (identical in all the ornamental zones), and the supplementary elements of the decor in the form of leaflets and shoots, and the slight relief which points up white lines in identical fashion in all zones, and finally the overall

coloration of the entire dish. The ornament loses a quality of flatness, and the bowl the impression of having a smooth and shining hemispherical surface. It is as though a living mass of ornament has been difficulty squeezed into these zones, constrained by a sort of transparent film beneath which it continues to live, thrusting to the surface here and there.

A characteristic decor structure is one in which the keen prancing rhythm of the circular movement of an ornament, commencing at the center or in the first broad annular band, dies down in the markedly stylized marginal epigraphic ornament and in the outermost edgings; from a state of complete rest and stability in the central area the pattern passes over into annular movement in the central strip, emphasized by a distinct rhythm and an inclination toward one side, as though from wind pressure, on the part of leaves, petals, and flowers, and finally comes to rest again in the outermost zone, where the annular motion created by the tendrils is neutralized by double transverse lines. Here, too, a single wave passes over the entire surface of the vessel - a uniform sensation of movement from the moment of its inception to that of its almost complete expiration.

A motion that transfixes a whole object is to be felt in the dishes with a bird in the central zone. Starting in the central field, which is tectonic in its relation to the shape of the vessel (it ordinarily follows the line of the annular bottom rest), this motion of the bird toward a specific direction is slowed by sprigs of plant ornament. The ornament links the motion of the duck with the energetic annular movement of the tendrils of the middle belt, which then fades in the outer zones. And in the same way as on other bowls, bright conspicuous dots are strewn everywhere, binding together through a single coloristic motif the hue range of the decor, which is already of itself consistent as regards tones alone (Grekov and Yakubovski, 1950, Illustration 37; Vakturskaya, 1959, Illustration 29, fig. 1).

These tendencies in the artistic shaping of hemispherical bowls sometimes led to the central circle's being compressed into a small circlet merely designating the center. Around it ran an exceptionally broad middle band upon which medallions were frequently set, emphasizing the radial structure of the whole decor; and it is only in the narrow outermost strip that a slight annular motion arises by virtue of leaf-bearing shoots rhythmically arranged all leaning in the same direction. The artistic forms have, as it were, thrust forth and grown from the center despite obstacles in the form of concentric barriers creating zones; they have energetically battled their way to the rims of the vessels and have been on the point of tearing loose from the boundaries of the concrete object, but at the very last moment this motion has been resolved and neutralized in the narrow band of ornament at the edge of the bowl. There are bowls in which, as we have seen, the disproportionately developed central zone of ornament thrusts the border to the edge of the outer surface of the vessel. One encounters piala-bowls where the center is also occupied by small flower-rosettes in the form of circles. The circular motion commencing at the center was then taken over and continued in a swarm of circles: blossoming flowers on delicate stems with slender leaves filling the

entire surface of the bowl, which was in this way covered with what might seem to be gyrating disks. Sometimes the whole bowl, with the exception of a small interior rosette, was filled with tiny flowers. This still more strongly contributed to the impression of pictorial unity and indivisibility of the whole ornamental field. The lines separating zones become flimsy and inexpressive, and several ornamental zones show a tendency to blend into a single broad zone covered with homogeneous decor and sprinkled with identical flowers. A motif of dots on a white rim of a bowl creates the impression of an indistinct deliquescent edge.

Absolute form with distinct tectonics yields place, in a range of vessels, to a form exhibiting indistinct lines and demarcations; covered, as one might say, with a pictorial pattern that lives a life of its own, and one more powerful and important than is the structure of the object itself. There is sometimes an endeavor to make the very surface of the vessel indistinct, as though it were to be merging with a stratum of the atmosphere surrounding the vessel. A slight relief demolishes strict flatness; stout, meaty stems and leaves thrust forth, one might say, from the brilliant glaze enveloping the vessel. A smooth surface is exchanged for one veiling the form, but creating a magical, illusionary, and translucent play of lights.

One can convey through some words of A. E. Brinkman, used by him with reference to Gothic ornament, the impression produced by these patterns: they "create the effect of a forcibly confined thicket striving to make its way out of the plot assigned to it. The ornament does not rest upon a plane, but seems to rise from behind it. Its depth is undefined - many leaves are indeed compressed laterally, but others protrude outward or recede into the shadows."

A particularly significant point is the inherent density of the pictorial motifs in the ceramic ware with cobalt or ultramarine painting; they evolve in the altogether picturesque and free style of the "Timurid" utensils of the XVth-XVIth centuries.

In Golden Horde red-clay glazed ceramics one does similarly find disarticulation and tectonic character in zone-by-zone ornament. But an important share falls to patterns which, like a plant shoot, course over the whole surface in free twists and turns, not setting apart either its center or its periphery, and instead offering everywhere the same spirals, leafage, and flowers.

CHAPTER V

UNGLAZED CERAMIC WARE AND IMPORT CERAMICS

Classification of the Forms of Unglazed Red-Clay Ceramic Objects

Unglazed red-clay ceramic ware makes up approximately 80-90% of all ceramic ware. Aside from the massive storage jars, it is all thrown on the potter's wheel. Its clay is not substantially different from the paste of red-clay glazed ware. All the handles of unglazed red-clay vessels are oval in cross-section, sometimes almost flat. Handles were almost always fastened at the lower end to the most fully expanded part of the body. Annular bottom rests are not encountered in unglazed pottery elsewhere than in goblets.

Groups are demarcated in accordance with the overall appearance of vessels; divisions, in accordance with the shape of the neck, body, and handles; and types, in accordance with proportions and dimensions. We shall first run through the shapes of tableware and kitchenware.

Group I. Pot-like Vessels with Two Handles

Division 1. With body rounded above and conical below, with low, broad neck and everted rim, with two small loop-like handles, their upper ends attached to the rim (Mikhalchenko, 1973, Illustration 3, fig. 2). Dimensions (in cm.):

	Type 1	Type 2	Type 3	Type 4
Diameter of neck	29-30	22	16-20	12-13
Greatest diameter of body	35	26	18-20	15
Diameter of bottom	--	--	8-10	7-8
Height	--	--	12-15.5	10-12
Height of neck	3	3	3	2-3
Height of greatest expansion of body	--	--	9-11	7-9

Division 2. With globular body having a low, broad neck, with two loop-like handles on a body having in its upper part an expansion nipped in at certain points, the rim straight. Dimensions (in cm.):

	Type 1	Type 2
Diameter of neck	15-16	12-13
Height of neck	3-4	3-4

Group II. Pot-like Vessels with Single Handle

Division 1 (Illustration 44, fig. 2). With globular body having horizontal scoring, without neck, with everted and sometimes smallish pan-like rim, and with a handle the upper end of which is attached to the rim. Dimensions (in cm.):

	Type 1	Type 2	Type 3	Type 4	Type 5
Diameter of rim	42-45	35	25	12-16	12
Greatest diameter of body	47-50	38-40	30	22	20
Diameter of bottom	--	--	--	9	11-12
Height	--	--	--	17-19	13
Height of greatest expansion of body	--	--	--	15-17	10

Division 2 (Illustration 44, fig. 1). Like the shape of Group I, Division 1, but with a single handle. Dimensions (in cm.): Diameter of neck, 17; greatest diameter of body, 21; diameter of bottom, 9; height, 15; height of neck, 2; height of greatest expansion of body, 10.

Group III. Kettle-like Vessels

Division 1 (Illustration 44, fig. 3). With double truncated-conical body having a tall, almost cylindrical upper part with straight thickened rim, with broad low neck, with horizontal scoring, with a flat fillet on the body and with two horizontal, pinched-in handles, and with a rib at the transition from the body to the neck. A variant: with rim rectangular in cross-section and everted at a 90-degree angle (Mikhalchenko, 1973, Illustration 3, fig. 4). Dimensions (in cm.):

	Type 1	Type 2
Diameter of neck	27-28	15-19
Greatest diameter of body	35-37	30-40
Height of neck	5-6	5-6

Division 2 (Illustration 44, fig. 4). With globular body having straight slightly thickened rim, flat fillet on the body, and two handles like those of the kettles of Division 1 (Illustration 44, fig. 3). Dimensions (in cm.): Type 1: Diameter of neck, 15-19; greatest diameter of body, 30-40; height of neck, 5. A variant: the flat handle is replaced by a loop-like vertically positioned handle with three appliqués on top, imitating the finger-pinches of horizontal handles (Illustration 56, fig. 4).

The kilning of kettle-shaped vessels was usually bad.

Division 3 (Illustration 57, fig. 4). A suspension vessel, shape unknown, with inside handles in the form of oval horizontal appliqués on the interior of the neck, with openings. This is a survival from the kettles with inside handles that were widespread in the Eurasian steppe in the 1st. millenium A.D.

Division 4 A suspension vessel, shape unknown, with external handle in the form of a rectangular horizontal appliqué with two openings and a toothed edge.

In some kettle-like vessels (of unknown shape) there are handles in the form of triangular projections, reproducing the handles of stone kettles (Illustration 55, fig. 2).

Group IV. Single-Handled Pitchers without Spouts

Division 1 (Illustration 45, fig. 1-3). With body rounded above and truncated-conical below, having a low neck slightly expanding upward (the diameter of the neck is approximately equal to or greater than half the height of the vessel); sometimes a markedly everted rim; a handle with its upper end attached below the rim. A broad, slightly depressed band often runs around the middle of the body (Galkin, 1975, Illustration 5, fig. 15). Dimensions (in cm.):

	Type 1	Type 2	Type 3
Diameter of neck	8-9	7-8	5
Greatest diameter of body	11-13	11-12	6-7
Diameter of bottom	5.5-7	3-5	4
Height	13-15	13-14	6-8
Height of neck	2-3	1.5-2	1-2
Height of greatest expansion of body	8-10	8-9	4

Division 2 (Illustration 45, fig. 4-7). With body rounded above and truncated-conical below, having broad cylindrical neck sometimes merging toward the body, and with a slightly thickened faintly everted

rim and a handle the upper end of which is fastened below the rim. A broad and slightly depressed band frequently runs around the middle of the body (Grekov and Yakubovski, 1950, Illustration 44, 46; Fyodorov-Davydov, 1964 - 2, Illustration 11, fig. 1; Illustration 12, fig. 1; Yegorov and Poluboyarinova, 1974, Illustration III, fig. 1). Dimensions (in cm.):

	Type 1	Type 2	Type 3	Type 4	Type 5	Type 6
Diameter of neck	9-10	8-9	5-6	4-6	4-6	4-4.5
Greatest diameter of body	13	11-13.5	8-10	8-10	7-9	6-7
Diameter of bottom	8-9	5-7	4-6	4-6	3.5-4	3-4
Height	18-22	15-17	13-14	10-12	8-10	7.5-8
Height of neck	4-5	4-6	3-4	2-4	2-3.5	2-3
Height of greatest expansion of body	11-13	7-10	6-8	5-6	4-5	4-5

Division 3 (Illustration 45, fig. 8). With body rounded above and truncated-conical below having a narrow neck (diameter of neck less than half the height of the vessel), sometimes merging toward the body; slightly everted rim; the upper end of the handle attached beneath the rim. The neck often has horizontal scoring below the rim. A broad slightly depressed band frequently runs around the middle of the body (Fyodorov-Davydov, 1964-2, Illustration 11, fig. 4; Mikhalchenko, 1973, Illustration 3, fig. 5). Dimensions (in cm.):

	Type 1	Type 2	Type 3	Type 4	Type 5	Type 6	Type 7	Type 8
Diameter of neck	13	10-12	10-11	8-10	8	7-9	6	4-5
Greatest diameter of body	27-29	27-28	22-24	17-20	16-17	16-17	11-12	9-11
Diameter of bottom	18	13-15	13-15	9-13	7-8	7-8	5-6	3.5-4.5
Height	50-60	44-48	44-48	36-42	29-30	20-22	16	14-18
Height of neck	15	8-10	8-12	7-8	6-7	7	3-5	3-5
Height of greatest expansion of body	20-25	24-26	30	13-15	15-16	10-12	7-13	8-11

There are a few specimens of Divisions 2 and 3 pitchers that are covered with green glaze.

Division 4 (Illustration 45, fig. 9, 10, 12). With body rounded above and truncated-conical below, with broad neck expanding upward having straight rim and sometimes merging toward the body; the upper part of the handle attached beneath the rim. Dimensions (in cm.):

	Type 1	Type 2
Diameter of neck	6-7.5	4
Greatest diameter of body	9-10	5.5
Diameter of bottom	4.5-5	2.5-3
Height	13.5-18	8
Height of neck	4-6	2-2.5
Height of greatest expansion of body	6-10	3-3.5

Division 5 (Illustration 45, fig. 11). With body rounded above and truncated-conical below, with broad neck having slightly everted rim, and with the upper end of the handle attached to the middle of the neck. Dimensions (in cm.): Type 1: Diameter of neck, 8-9; greatest diameter of body, 10.5-13; diameter of bottom, 6.5 -7; height 13.5-15; height of neck, 3.5-4; height of greatest expansion of body, 7-8.

Division 6 (Illustration 45, fig. 13; Illustration 46, fig. 4). With body rounded above and truncated-conical below, with narrow neck, sometimes merging toward the body; the rim thickened and sometimes slightly everted but more often straight; frequently with horizontal scoring below the rim; the upper end of the handle attached at the middle of the neck (Mikhalchenko, 1973, Illustration 3, fig. 7, 8; Illustration 4, fig. 1; Galkin, 1975, Illustration 5, fig. 1, 4, 5, 13). Dimensions (in cm.):

	Type 1	Type 2	Type 3	Type 4	Type 5	Type 6
Diameter of neck	10	8-9	7-9	4-5	7-8	7
Greatest diameter of body	30	14	13-15	14	12-14	11
Diameter of bottom	13	7-8	7-10	4	7-10	5
Height	74	34	20-24	20	17-18	10
Height of neck	12	8	6-8	6	4-5	3
Height of greatest expansion of body	46	20	10-14	12	8-9	4

A pitcher-neck specimen has been encountered that has light engobe of Division 6 and the rim heavily pinched in the horizontal plane, so that there are two throats (Illustration 55, fig. 5).

Division 7 (Illustration 46, fig. 3). Truncated-biconical body without neck, rim thickened and everted, upper end of handle attached to rim (Mikhalchenko, 1973, Illustration 3, fig. 6; Illustration 4, fig. 2, 3). Dimensions (in cm.):

	Type 1	Type 2
Diameter of rim	8-10	9-11
Greatest diameter of body	18-23	12-13
Diameter of bottom	9	8
Height	20-28	15-16
Height of greatest expansion of body	10-14	7-8

Division 8 (Illustration 45, fig. 14). Truncated-biconical body without rib, neck expanding upward, rim slightly everted, upper end of handle attached to rim. Dimensions (in cm.): Type 1: Diameter of neck, 7.5; greatest diameter of body, 10; diameter of bottom, 5; height, 19; height of neck, 6; height of greatest expansion of body, 10.

Division 9 (Illustration 45, fig. 15). Same shape as in pitchers of Division 8, neck sometimes merging toward body, but upper part of handle attached to middle of neck. Dimensions (in cm.):

	Type 1	Type 2
Diameter of neck	5-7	5.5
Greatest diameter of body	15-16	10
Diameter of bottom	6-9	5.5
Height	31	17
Height of neck	8-12	6
Height of greatest expansion of body	10-11	10

Division 10 (Illustration 46, fig. 2). With truncated-biconical body without rib, with straight neck having slightly everted rim, the upper end of the handle being attached to the middle of the neck (Galkin, 1975, Illustration 5, fig. 18). Dimensions (in cm.):

	Type 1	Type 2	Type 3
Diameter of neck	10	8-9	7-9
Greatest diameter of body	30	15-16	24-25
Diameter of bottom	20	8-10	11-12
Height	44	34-35	29
Height of neck	12	8-10	7-8
Height of greatest expansion of body	20	20	13-13.5

Division 11 (Illustration 46, fig. 1). With truncated-biconical body, without rib, running smoothly into a low neck which narrows upward and has an everted rim: the loop-like handle is upon the body. Dimensions (in cm.):

	Type 1	Type 2	Type 3
Diameter of neck	12	9	7
Greatest diameter of body	28	24	16
Diameter of bottom	14	11	8
Height	49	29	26
Height of neck	16	8	8-9
Height of greatest expansion of body	18	15.5	15-17

Group V. Pitchers with Single Handle and Conical Spout

Division 1 (Illustration 46, fig. 5). With body rounded above and truncated-conical below, narrow neck expanding a little upward, and having a thickened rim (Galkin, 1975, Illustration 5, fig. 14). Dimensions (in cm.):

	Type 1	Type 2
Diameter of neck	4.5	4
Greatest diameter of body	18-23	12-13
Diameter of bottom	8.5	6.5-7
Height	22	22
Height of neck	4	8

Length of spout	5-7	4-6
Height of greatest expansion of body	9	7-8

There are pitchers of Division 1 that have green glaze.

Division 2 (Illustration 46, fig. 6). With body rounded above and truncated-conical below, with a demarcation border where the body passes into the neck, which expands a little upward and has a globular swelling at its middle and an expansion at its upper edge, ordinarily with a horizontal groove and a slightly everted rim; the upper end of the handle is attached to the globular swelling of the neck (Mikhalchenko, 1973, Illustration 3, fig. 9). Dimensions (in cm.): Diameter of neck, 6; greatest diameter of body, 24; diameter of bottom, 11.5; height, 40; height of neck, 9; length of spout, 4; height of greatest expansion of body, 17.

Division 3 (Illustration 46, fig. 7). The same shape as in Division 2, but without the demarcation border. Dimensions (in cm.):

	Type 1	Type 2
Diameter of neck	7-9	3-5
Greatest diameter of body	16-18	16-18
Diameter of bottom	9-11	7-10
Height	23-29	23-29
Height of neck	8-10	7-10
Length of spout	4-5	4
Height of greatest expansion of body	11-13	10-12

Group VI. Pitchers with Two Handles and without Spout

Division 1 (Illustration 47, fig. 1). With body rounded above and truncated-conical below, the neck low and narrow, the upper ends of the two handles fastened to the rim. Dimensions (in cm.):

	Type 1	Type 2
Diameter of neck	4	4
Greatest diameter of body	19	13-16
Diameter of bottom	10	6-8
Height	39	29-32

Height of neck	6	3-4
Height of greatest expansion of body	24	19-20

Division 2 (Illustration 47, fig. 2). Same shape as Division 1, but the handles rise above the level of the rim (Mikhalchenko, 1973, Illustration 4, fig. 4, 5; Illustration 3, fig. 10). Dimensions (in cm.):

	Type 1	Type 2
Diameter of neck	6	5-6
Greatest diameter of body	14	20-22
Diameter of bottom	9	8
Height	41	35
Height of neck	8	4-6
Height of greatest expansion of body	29	20

Group VII. Deep Bowls (mixing bowls, soup bowls - Tr.)

Division 1 (Illustration 47, fig. 7). The body rounded above and truncated-conical below, the rim flat and shelf-like. Dimensions (in cm.):

	Type 1	Type 2	Type 3	Type 4	Type 5
Diameter of rim	44	36-38	27-32	20-24	28
Diameter of bottom	--	14-16	11-12	9-10	8
Height	--	19-20	16-17	10-13	12

Division 2 (Illustration 47, fig. 8). With body rounded above and truncated-conical below, the shelf-like rim having a downward overhang. Dimensions (in cm.):

	Type 1	Type 2	Type 3	Type 4	Type 5
Diameter of rim	34-36	30-33	23-25	23-25	17-18
Diameter of bottom	18	12-16	16	9-12	--
Height	14	17-19	15	9-12	--

Division 3 (Illustration 47, fig. 9). With truncated-conical body having a thickened everted rim; there is usually a rib just below the overhang of the rim. Dimensions (in cm.):

	Type 1	Type 2
Diameter of rim	25-33	37-38
Diameter of bottom	11-12	12-13
Height	17	19-20

Division 4 (Illustration 47, fig. 10). With body truncated-conical below and rounded above, the rim straight and thickened; there is sometimes a bolster-like expansion of the center of the body's height. Dimensions (in cm.):

	Type 1	Type 2
Diameter of rim	40	18
Diameter of bottom	--	9
Height	--	10

Division 5 (Illustration 48, fig. 1). With annular bottom rest, rounded body, a constriction to form a low, broad neck, and a slightly everted rim. Dimensions (in cm.): Type 1: Diameter of rim, 21; greatest diameter of body, 22; diameter of bottom, 9; height, 7.5.

Group VIII. Bowls

Division 1 (Illustration 48, fig. 2). With hemispherical body, everted rim, and flat bottom (Mikhalchenko, 1973, Illustration 3, fig. 12). Dimensions (in cm.):

	Type 1	Type 2
Diameter of rim	17.5-21	10-11
Diameter of bottom	5.5-7	4
Height	6.5-7.5	3.5-4

Division 2 (Illustration 48, fig. 3). With hemispherical body, the rim brought inward, the bottom flat. Dimensions (in cm.): Type 1: Diameter of rim, 7-9; diameter of bottom, 4; height, 3-4.

Division 3 (Illustration 48, fig. 4). With body cylindrical above and truncated-conical below, the rim slightly everted. Dimensions (in cm.): Type 1: Diameter of rim, 8-11; diameter of bottom, 4-5; height, 3-6.

Group IX. Dishes

Division 1 (Illustration 48, fig. 10). In the form of a segment of a sphere, the bottom flat and the rim everted (Mikhalchenko, 1973, Illustration 3, fig. 13). Dimensions (in cm.): Type 1: Diameter of rim, 27-34; diameter of bottom, 6.5-8; height, 5.5-7.

Division 2 (Illustration 48, fig. 11). In the form of a segment of a sphere, the rim slightly everted (Mikhalchenko, 1973, Illustration 3, fig. 14). Dimensions (in cm.): Type 1: Diameter of rim, 27; height, 4.

Division 3 (Illustration 48, fig. 12). In the form of a segment of a sphere, the rim shelf-like and thickened at the edge. Dimensions (in cm.): Type 1: Diameter of rim, 28-34; diameter of bottom, 9-12; height 5.

Division 4 (Illustration 48, fig. 13). In the form of a segment of a sphere, the bottom flat and the rim straight. Dimensions (in cm.): Type 1: Diameter of rim, 30-35; diameter of bottom, 25-30; height, 4-5.

Group X. Cups with Handles

Division 1 (Illustration 48, fig. 14). With hemispherical body, the bottom flattened, the rim straight, the handle loop-like with its upper end attached to the rim; it rises above the level of the throat. Dimensions (in cm.): Type 1: Diameter of rim, 7-8; diameter of bottom, 3-3.5; height, 5-6.

Group XI. Goblets

Division 1 (Illustration 47, fig. 4). With annular bottom rest, the body hemispherical upon a short foot. Goblets were made of dark-gray clay, and were well kilned. Dimensions (in cm.):

	Type 1	Type 2	Type 3
Diameter at top	--	13	--
Diameter of foot	2.5	3-3.5	--
Diameter of bottom	3.5	5-5.5	7.5-8
Height	--	8	--
Height of bottom rest plus foot	3.5	2.5-3	2.5-3

Group XII. Lids

Division 1 (Illustration 48, fig. 5, 6). In the form of a hollow segment of a sphere with a low cylindrical flange and a vertical biconical or cylindrical handle (Mikhalchenko, 1973, Illustration 3, fig. 29; Galkin, 1975, Illustration 5, fig. 11). Dimensions (in cm.):

	Type 1	Type 2
Diameter at edge	18	10-12
Height with handle	7	5

Division 2 (Illustration 48, fig. 7). In the form of a hollow segment of a sphere, with broad brim at the edge and a cylindrical flange, and with vertical handle (Mikhalchenko, 1973, Illustration 3, fig. 29). Dimensions (in cm.):

	Type 1	Type 2	Type 3	Type 4
Diameter at edge	20	16-18	10-14	7-8
Diameter of flange	16	12-15	8-11	4.5-6
Height with handle	9	7-9	5-7	3-5

Division 3 (Illustration 48, fig. 8). In the form of a disk, with conical handle at center. Dimensions (in cm.): Type 1; Diameter, 40; height with handle, 5-6; thickness, 1.5-3.

Division 4. In the form of a disk bearing concentric flange-like mouldings on its upper surface, sometimes with wavy-linear ornament between them; mushroom-like handle at the center. Dimensions (in cm.): Type 1: Diameter, 9-12; height with handle, 3.5; thickness, 0.7-1.

Division 5 (Illustration 50, fig. 1). In the form of a disk having a round loop-like handle at the center, with finger-print indentations at its base. On the upper surface there was an ornament created by drawing a multiple-toothed comb about. To judge by the same sort of strips on the walls of flatbread ovens (tandyrs) and by the dimensions, these lids were used as tops to tandyrs. Dimensions (in cm.): Type 1: Diameter, 40-42; thickness, 2-4.

Division 6 (Illustration 48, fig. 9). In the form of a flat disk having a small conical projection at the center of one side and a massive cylindrical plug at the center of the other. Dimensions (in cm.): Type 1: Diameter, 5; height, 4.5; thickness of disk, 0.5. Lids of this type are found with green glaze on the upper side.

Group XIII. Basins

Division 1 (Illustration 49, fig. 1). With body in the form of a segment of a sphere having a straight rim, the bottom slightly flattened. Dimensions (in cm.): Type 1: Diameter of rim, 50; diameter of bottom, 40; height, 7.

Division 2 (Illustration 49, fig. 2). Same shape as in Division 1, but with handles at the edge in the form of oval brackets. Dimensions (in cm.): Type 1: Diameter of rim, 42; diameter of bottom,

20; height, 8.

Now let us pass on to special-purpose vessels.

Group XIV. The "Yam" (Vat? - Tr.). This is the name given to these vessels in Central Asia. They are used both in cooking and in construction, and also in pottery (fragments of these basins containing residues of lime and of engobe are found in Golden Horde pottery workshops).

Division 1 (Illustration 49, fig. 7, 8). With truncated-conical body having expanded appliqué rim; sometimes the bottom is rounded (Mikhalchenko, 1973, Illustration 3, fig. 21). Dimensions (in cm.):

	Type 1	Type 2	Type 3
Diameter of rim	90	90-95	40
Diameter of bottom	50-60	40-45	--
Height	85-90	60-65	--

Group XV. The "Khum" (Storage jars - Tr.) This is the name given in Central Asia to vessels for storage of liquid and granular substances. Small ones are called "khumcha." The rims of large ones are often added after throwing the body on the wheel.

Division 1 (Illustration 49, fig. 3, 6). With body rounded above and truncated-conical below, the rim massive and everted without neck (Mikhalchenko, 1973, Illustration 3, fig. 18). Dimensions (in cm.):

	Type 1	Type 2	Type 3	Type 4	Type 5	Type 6	Type 7
Diameter of rim	50	50-60	35-45	27-35	48	32	24
Greatest diameter of body	105	85-90	80-90	59-68	84	60	44
Diameter of bottom	35	25-30	20-30	20-24	20	28	16
Height	120	105-115	93-105	77-80	68	65-68	68
Height of greatest expansion of body	80-85	70-73	60-70	45-50	44	35-40	48

Division 2 (Illustration 49, fig. 4). With body rounded above and truncated-conical below, having two loop-like handles on the body; the neck short and the rim straight (Mikhalchenko, 1973, Illustration 3, fig. 20). Dimensions (in cm.):

	Type 1	Type 2	Type 3	Type 4
Diameter of neck	30	18-20	15-17	23-25
Greatest diameter of body	--	50	37-45	25
Diameter of bottom	--	18	17-18	15
Height	--	90	77-80	67
Height of neck	3	3	3-4	4-5
Height of greatest expansion of body	--	70	55-65	45

Division 3 (Illustration 49, fig. 5). With body rounded above and truncated-conical below; two loop-like handles on the body; the neck is tall and merges into the body. Dimensions (in cm.): Diameter of neck, 14; greatest diameter of body, 34; diameter of bottom, 14; height, 82; height of neck, 12; height of greatest expansion of body, 60.

Some of the storage jars have a vegetable admixture in their paste to maintain porosity. Upon evaporating in such a jar, water becomes chilled.

Group XVI. The "Digir". The name given in Central Asia to scoops for water-wheels used in irrigation.

Division 1 (Illustration 47, fig. 5). With body of ellipsoidal form, having a narrow, drawn-out round or flat foot, sometimes with a flange; the foot often shows knife-cuts made in shaping it. The neck is narrow and the rim is straight. Dimensions (in cm.): Type 1: Diameter at rim, 8; greatest diameter, 14-19; diameter of bottom, 3-5; height, 36-41 (Mikhalchenko, 1973, Illustration 3, fig. 22).

Division 2 (Illustration 47, fig. 6). The same shape but with a broad neck. Dimensions (in cm.): Type 1: Diameter of neck, 8; greatest diameter of body, 9; diameter of bottom, 2.5-3; height, 27-28.

Group XVII. The "Tuvak" The name given in Central Asia to childrens' pots that are fastened to cradles. (Chamber pots - Tr.).

Division 1 (Illustration 47, fig. 3). With cylindrical body and horizontal shelf-like rim; there is a certain degree of compression of the body just below the rim. (Mikhalchenko, 1973, Illustration 3, fig. 23). Dimensions (in cm.):

	Type 1	Type 2	Type 3	Type 4
Diameter at edge of rim	14-15	15-16	12-15	12
Diameter at bottom	6-7	4.5-5.5	6-7.5	4.5-5
Height	17-18	14-16	13-16	15-16

In contradistinction to Central Asiatic tuvaks, the Golden Horde ones are almost all unglazed. There is one vessel of this sort from Uvek that has green glaze. Perhaps these vessels were used in other and different household connections, since too many of them are found in the culture stratum.

Group XVIII. Vessels in the Form of Truncated Cones.

Purpose unknown.

Division 1. With truncated-conical body, straight rims, and flange at bottom. Dimensions (in cm.): Type 1: Diameter of rim, 9-15; Diameter of bottom, 5.5-8; height, 6.5-9 (Illustration 48, fig. 19).

Group XIX. Coin-Banks

Division 1 (Illustration 48, fig. 15). Body globular above and truncated-conical below, no neck; slit to one side of the upper part of the body or at the bottom (Mikhalchenko, 1975, Illustration 3, fig. 25; Fyodorov-Davydov, 1964-2, Illustration 11, fig. 5). Dimensions (in cm.): Greatest diameter of body, 7-10; diameter of bottom, 3-4.5; height, 6-9.

Division 2 (Illustration 48, fig. 16). Same shape as in Division 1, with a projection on top (Minayeva, 1953, Illustration 2; Mikhalchenko, 1973, Illustration 3, fig. 26; Galkin, 1975, Illustration 5, fig. 21). At Madjar a white-clay bank of this type was found that had painting in red engobe wavy-line patterns (Levashova, 1960, p. 183). Dimensions (in cm.): Type 1: Greatest diameter of body, 7-10; diameter of bottom, 3-4.5; height, 7-10.

Coin-banks are broken or else have an opening cut with a knife to take the coins out.

Group XX. "Skillets" Purpose unknown.

Division 1. Flat round vessels with a low border. Dimensions (in cm.): Type 1: Diameter, 40; height of edge, 3-5.

Division 2. Same, but rectangular. Dimensions (in cm.): Type 1: Height of edge, 3-5.

Group XXI. Lamps

Division 1 (Illustration 48, fig. 17). In the form of a cup with the rim bent inward; an end is drawn out in the form of a discharge lip, and there is a rectangular handle raised like a vane (Mikhalchenko, 1973, Illustration 3, fig. 30; Galkin, 1975, Illustration 5, fig. 12). Dimensions (in cm.): Type 1: Diameter of rim, 8-12; diameter of bottom, 4-4.5; height, 3-4.5).

Division 2 (Illustration 48,m fig. 18). Same shape as Division 1, but with a vertical cylindrical appliqué in the middle of the bottom for attachment of a taper. Sometimes the inside surface was covered

with glaze (Mikhalchenko, 1973, Illustration 3, fig. 31). Dimensions (in cm.): Type 1: Diameter of rim, 8-11; diameter of bottom, 4.5-5; height, 3-4.5.

Division 3 In the form of a wheel-shaped object with two channels (Illustration 54, fig. 1). The channels have openings in the upper surface of the lamp; sleeves were fastened to these, and wicks were inserted in the sleeves. Dimensions (in cm.): Type 1: Outside diameter, 10.5; inside diameter, 4.5; height, 3.5.

Division 4 (Illustration 54, fig. 2). In the form of a cup to the edges of which small vertical cylinders to receive tapers are attached. There are analogous vessels at the Golden Horde sites in Moldavia. Those vessels are shaped like cups with sleeves at their sides; the cups are on a tall bottom-rest, and there is a large sleeve at the center (Polevoi, 1969, p. 133, Illustration XXVII, fig. 1).

Group XXII. Miniature Vessels. Possibly toys.

Division 1 In the form of a miniature tuvak (Fedorow-Davydow, 1972, fig. 76). Dimensions (in cm.): Height, 3.

Division 2 (Illustration 56, fig. 1). With truncated-conical body, the sides faceted by means of knife-cuts as the object was modelled (Fedorow-Davydow, 1972, Illustration 77). Dimensions (in cm.): Diameter of bottom, 2.3; height, 3.5.

Group XXIII. The "Kubur" This is the name given in Central Asia to sections of end-fitted water-supply piping.

Division 1 (Illustration 49, fig. 9). In the form of a truncated-conical tube with a flange at the narrow end (Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, Illustration II, fig. 17; Yegorov and Poluboyarinova, 1974, Illustration III, fig. 2). Dimensions (in cm.):

	Type 1	Type 2	Type 3	Type 4
Larger diameter	18	12	10	6
Smaller diameter	--	9-10	9	5
Length	--	42	35	--

Division 2 Same, with a flank opening and a coupling to carry off fluids, i.e. a "T-pipe". (Yakubovski, 1932, Illustration 9; Yegorov and Poluboyarinova, 1974, Illustration III, fig. 3).

Group XXIV. "Stoppers". Purpose not explained.

Division 1 (Illustration 47, fig. 11). In the form of a truncated cone with a projection above and a vertical groove which expands upward. Dimensions (in cm.): Type 1: Diameter at top, 5; diameter at bottom, 4; height, 6; diameter of groove, 0.4-0.5.

Group XXV. Whistles

Division 1 (Illustration 42, fig. 5). With elliptical body (Vainer and Nigomedzianov, 1965; Fyodorov-Davydov, Vainer, and Guseva, 1974, Illustration V, fig. 26, 27).

Division 2 In the form of a "bird" (Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, Illustration III, fig. 9).

Group XXVI. Small Models of Animals (Perhaps toys).

Division 1 Shaped like a horse (Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, Illustration VIII, fig. 6-7; Fyodorov-Davydov, 1968, p. 133; Fedorow-Dawydow, 1972, Illustration 101).

Division 2 Shaped like a bird, sometimes with blue glaze (Grekov and Yakubovski, 1950, Illustration 38; Papa-Afanasopulo, 1925, Illustration 2; Fyodorov-Davydov, 1964-2, Illustration 4).

Division 3 In the shape of a ram (Illustration 54, fig. 6).

Division 4 In the shape of a horseman, often covered with turquoise glaze (Sarai 150).

Group XXVII. Sphero-cones - a sort of vessel widespread throughout the whole Muslim East, the purpose of which is unexplained. One of the plausible suggestions is that the sphero-cones served for the storing and carriage of mercury and mercury preparations, including medicinal ones.

Division 1 (Illustration 51; Illustration 52, figs. 1, 2, 4). With body hemispherical above and conical below, with a hemispherical projection at top serving as a neck. There is a small channel through this (Krotkov, 1926, No. 5, 11, 15, 17, 18; Mikhalchenko, 1974, Illustration 1, fig. 6).

Division 2 Same shape as in Division 1, but with a constriction in the lower part (Mikhalchenko, 1974; Illustration 1, 7; Krotkov, 1926, No. 16, 29).

Division 3 (Illustration 52, fig. 3). Same shape as in Division 1, with body markedly drawn out below and with a fillet at upper part of body (Krotkov, 1926, No. 31. Mikhalchenko, 1974, Illustration 1, fig. 4).

Division 4 (Illustration 53, fig. 3). With body hemispherical above and conical below but without projection at top (Mikhalchenko, 1974, Illustration 1, fig. 2).

Division 5 (Illustration 52, fig. 5). With conical body and rounded projection at top serving as a neck. Found only at Uvek (Krotkov, 1926, No. 2, 21; Mikhalchenko, 1974, Illustration 1, fig. 5).

There are some sphero-cones with light-blue and with green glaze.

The dimensions of all types are almost uniform (in cm.): Diameter of neck, 2.5-4; greatest diameter of body, 8.5-11; diameter of channel, 0.3-0.1; height, 12-14; thickness of walls, 1-3.

Sphero-cones have a grayish-green paste, very dense and strongly fired (36% of all sphero-cones), or else the red paste usual for unglazed ceramic ware (about 64%). The ones of Division 5 are red-clay only.

Group XXVIII. Vessels with "Strainer"

Division 1 These are rounded vessels with a bulging upper part and a hemispherical lower part having closely spaced densely distributed piercings. Dimensions (in cm.): Diameter, 16; height, 9 (Yegorov and Poluboyarinova, 1974, Illustration III, fig. 9). These are perhaps flea-traps. A sticky bait was placed in that kind of vessel, and it was worn beneath the clothing, against the skin.

Group XXIX. Balls Purpose not explained.

Division 1 A hollow, thick-walled ball, usually with one opening or with two. A small ceramic ball was found inside one ball at the Selitryonnoye site. Diameter of ball, 12-13 cm., sometimes 9-10 or 7-8 cm.; wall thickness, 1-1.3 cm. (Sarai 234, 833; Galkin, 1975, Illustration 5, fig. 19-20). Diameter of the ball inside, 4 cm., sometimes 2-3 cm. Such balls are often found in the culture strata of the Golden Horde cities. A clay ball covered with colorless glaze, 7.5 cm. in diameter, and having an opening, was found at Madjar (Minayeva. 1968, p. 285).

Group XXX. Weights

Their purpose cannot always be established. Many were fishing sinkers, and some were placed on balance-beams (the so-called steelyard). All have an opening at the center and are round in the section transverse to the axis of this opening.

Division 1 Oval in longitudinal section. Dimensions (in cm.): Type 1: Diameter, 4.5-7; length, 2.5-3. Breadth of channel, 0.5 -0.7 (Fyodorov-Davydov, Vainer, and Guseva, 1974, Illustration II, fig. 24).

Division 2 Truncated-biconical in longitudinal section. Dimensions (in cm.): Type 1: Diameter, 3-5; length, 2-3; breadth of channel, 0.5.

Division 3 Rectangular in longitudinal section. Dimensions (in cm.): Type 1; Diameter, 4-5; length, 1-3; breadth of channel, 0.5-0.7 (Fyodorov-Davydov, Vainer and Mukhamadiyev, 1970, Illustration II, fig. 18).

Division 4 Round in longitudinal section. Dimensions (in cm.): Type 1: Diameter, 3-4; breadth of channel, 0.5. One weight specimen in this Division was decorated with belts of stamped ornament placed at the "equators" and the "poles" of the ball (Sarai 1279).

Division 5 Hemispherical in longitudinal section. Dimensions (in cm.): Type 1: Diameter, 3 (Illustration 94, fig. 10).

Division 6 Arc-shaped in longitudinal section. Dimensions (in cm.): Type 1: Diameter, 2.5; thickness, 0.31; diameter of channel, 0.2 (Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, Illustration VI, fig. 5).

Weights are found that are cut from a piece of the wall of a vessel. They are not always of regularly round shape. Dimensions (in cm.): Diameter, 4-5; thickness, 0.7-1.5; breadth of channel, 0.5-1.

Bottoms of large vessels are found that have numerous small holes through them (Illustration 43, fig. 2). Evidently these vessels were used to strain certain products, perhaps in cheese-making. Sometimes there was a larger opening in the wall of a vessel near the bottom.

Ornamentation of Unglazed Red-Clay Pottery

Most frequently one encounters ornament in the form of a simple horizontal incised band around the neck or around the body. This sort of ornament appears on pot-like vessels, pitchers, kettles, and deep bowls. The incised horizontal bands were filled with a triple or quadruple wavy or zigzag line (Illustration 55, fig. 6) or with a festoon-like line (storage jars of Divisions 2-3; Ballod, 1923-1, Illustration 6, 9, 10). There were also added to this ornament diagonal lines applied by means of a toothed stamp (Illustration 57, fig. 3), or rows of crosses or diamond-rhombuses (storage jars, Division 2). One encounters bands of simple incised lines in a herring-bone pattern (Illustration 55, fig. 4; Ballod, 1923-1, Illustration 6, fig. 2).

Side by side with incised ornament there is appliqué ornament in the form of rolls with finger impressions or with incised wavy lines (Illustration 55, fig. 1, 3; Illustration 57, fig. 3), or with impressions of a stamp in the form of a rosette or of diamond-rhombuses. Such ornaments are usual on kettle-shaped vessels, pot-like vessels of Division 1, and storage jars of Division 2. Rolls are encountered in combination with burnishing in strips on deep bowls of Type 4 (Ballod, 1923-1, Illustration 11, fig. 6). There are appliqué disks with impressions of a rosette-shaped stamp (Illustration 53, fig. 4).

Stamped ornament in the form of rosettes was often used for decoration of kettle-like vessels (Illustration 44, fig. 3, 4). There is decoration in the form of a row of impressions from a stamp bearing a lotus flower (Illustration 56, fig. 2).

One encounters fine incised ornament with the background filled with pricked dots. Vessels with such ornament sometimes imitate glazed vessels - the motif of small arches, plaited borders, "lucky knots" (Sarai 325; Illustration 55, fig. 8).

We are acquainted with pierced à jour ornament in the upper parts of vessels. There are fragments of vessels that have ornament in the

form of deep and broad incised vertical lines - fasces (Fyodorov-Davydov, 1964-2, Illustration 12, fig. 2) which created a vertical ribbing of the vessel's surface.

There are vessels with the walls pressed outward from inside, as a result of which vertical lobes and troughs were created (Illustration 55, fig. 7).

There are rims to large vessels (kettle-like ones of Division 1) that have a band of painting in red or yellow engobe in the form of a "running spiral" sometimes supplemented with incised work and with a band of diamond impressions (Illustration 54, fig. 4). Sometimes ornament in the form of wavy lines of brown hue was applied vertically on a vessel's handle that had first been covered with light engobe (Illustration 57, fig. 5).

There are walls of large vessels that are decorated with a deep and broad incised line dividing the surface into regular geometrical figures. Some of these are covered with white engobe and have a delicate incised pattern with the design filled with dots, while others are covered with burnishing (Illustration 54, fig. 3).

Very rarely, but still occasionally, one encounters painting in light engobe in the form of dots and lines sometimes representing illegible epigraphic ornament (Illustration 50, fig. 2). A vessel with such ornament was additionally decorated with the common wavy-line pattern.

Pitchers frequently have an area below the handle that has been pressed inward. In a number of cases handles were decorated with longitudinal cuts or appliqués that sometimes have zoomorphic contours (Illustration 57, fig. 2, 6). Zoomorphic motifs are rare, but they do appear, in the decoration of other parts of vessels as well (Illustration 54, fig. 7). For example, we are acquainted with a pitcher spout, shaped as a horse's head and neck and with incisions to represent the mane (Illustration 57, fig. 1).

There are vessels with red engobe and burnishing that are decorated with appliqués in the form of spherical lumps.

Ornament exists which imitates the elements of metallic vessels. At the Selitryonnoye site there was found a neck of a red-clay burnished pitcher that had merged gradually into its vessel. It had four pierced lugs beneath the rim for suspension, two symmetrical loop-like handles on the body, and raised vertical strips with lumps at their ends in imitation of rivetted metal fastenings (Illustration 60, fig. 1).

Most frequently of all it is unornamented utensils (40% of all unglazed red-clay ware) that are encountered, plus those ornamented with linear or wavy-line ornament (40%) which is associated with the technique of shaping on the potter's wheel. The simplicity of the ornament speaks to the effect that utensils were made in large quantities for commerce and that there was an endeavour to cheapen and standardize this production. For some quantitative data on the

distribution of ornament forms see Mikhalchenko, 1973, p. 120-121).

In the Volga cities of the Golden Horde unglazed pottery was rarely covered with engobe and banded burnishing. Yet even so, 2-6% of the ware has engobe, light or dark red, and burnishing. Burnishing is most frequently encountered on pitchers with spouts and on pitchers with two handles. Burnishing is in bands and it is often accompanied by red engobe. Absence of engobe and burnishing was made up for by good clay and good kilning, evidenced in almost 90% of the entire unglazed ceramic ware from the Golden Horde cities of the Volga. In the XIVth century cities of the North Caucasus, where engobe and burnishing are encountered more often, a large percentage of the pottery is poorly kilned.

Many unglazed vessels (some 300 from Golden Horde sites are known) bore special marks. The greater part of them (over 90%) were applied on the handles of pitchers after firing. There are no such marks on wasters from potteries. Handles with incised marks are found in the same sets of houses and villas. This argues that the marks were not those of owners either. It is very likely that they are dealers' marks (Fyodorov-Davydov, 1964-2, Illustration 9, fig. 1; Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, Illustration IX, X; Fyodorov-Davydov, Vainer, and Guseva, 1974, Illustration V, VI; Poluboyarinova, 1980).

Prior to firing, there were usually applied (low down on the handles of pitchers) stamp impressions - seals: Round with small rosettes, round with incomprehensible symbols (Illustration 53, fig. 5) and round and rectangular ones with Arabic inscriptions.

Three impressions of the same seal, with an Armenian name in Arabic letters, are known from storage jars. This is very likely the seal of a master-artisan (Kramarovski, 1978-2, p. 102-104).

The Ornamentation of Sphero-Cones

Sphero-cones had a special ornamentation. It was ordinarily applied with a stamp. Sometimes the whole surface was covered with impressions of a stamp in the form of diamonds, disks, or ovals (Sarai 384), spiralling rosettes (Sarai 606), and the like. Frequently these disks or ovals made up triangles (Illustration 51, fig. 2) or diamond-rhombuses (Illustration 51, fig. 1) running around the top of the vessel (Sarai 605; Rtveladze, 1974, Illustration 1, fig. 7).

Sometimes (Illustration 51, fig. 4) these stamp impressions are set apart by vertical or arc-topped straight lines dividing the whole surface of the vessel into sectors (Sarai 606, 603; Rtveladze, 1974, Illustration 1, fig. 9, 10). In other cases arc-like impressions, starlets, or "honey-comb" impressions were placed in vertical rows between the incised lines establishing sectors (Sarai 386, 602, 315, 504). Sometimes the ovals and circlets were supplemented with small crosses and rosettes within them and were placed in rows. On some sphero-cones these rows were made up of triangular impressions or of "Christmas-tree" figures. There are sphero-cones (Illustration 51, fig. 5) with three ornamental zones: an upper one in the form of a row

of rosettes and dashes, a broad middle one as a row of rosettes surrounded by ovals, and a lower one as a solid grid of squares with dots and circlets inside them (Mikhalchenko, 1974, Illustration 1, fig. 7). There are sphero-cones with anthropomorphous images: in the form of a row of bowing human figures with drooping wings (Illustration 52, fig. 1) - perhaps sirens (Grekov and Yakubovski, 1950, Illustration 47); or in the form of a row of masks between which there are "Christmas-tree" patterns (Krotkov, 1926, No. 29; Mikhalchenko, 1974, Illustration 1, fig. 2). There are sphero-cones without ornament or with isolated impressions of stamps. On many sphero-cones there are on the shoulders that are free of other ornament three or four rosette-stamp impressions and other figures (Sarai, 315, 316, 606).

Sphero-cones are encountered that have horizontal division into zones by means of incised lines (Illustration 52, fig. 2). Rosettes, ovals, and diamonds, etc., impressed from stamps are placed in these zones in rows (Rtveladze, 1974, Illustration 1). The "lucky knot" motif was used for ornamentation of sphero-cones (Rtveladze, 1974, Illustration 1, 12).

Red-clay sphero-cones were often covered merely with the commonplace horizontal incised lines (Sarai 607, 608).

Marks are found almost not at all on Golden Horde sphero-cones. Exceptions are one sphero-cone from Uvek bearing an inscription, and two from A. V. Tereshchenko's excavations at the Tsarevo site that are impressed with stamps giving the names of masters (Illustration 51, fig. 3).

Analogies to Unglazed Golden Horde Ceramic Ware of the Volga

When one compares unglazed Golden Horde ceramic ware of the Volga with the ware of neighboring areas one can distinguish a number of resemblances (Mikhalchenko, 1973, p. 121 ff.). Thus the ornamental motif of an appliqué roll between two drawn lines is characteristic for the ware of the medieval Alan population of the North Caucasus and accordingly it is more frequently found in Golden Horde Madjar. Engobing and strip burnishing also presumably have roots in Alan pottery (Fyodorov-Davydov, 1964-2, p. 266); this is perhaps also an influence of pre-Mongol Volga Bolgar ceramics. It is not by chance that the nearer to Volga Bolgaria one gets, the more vessels with burnishing there are (for example at Moksha and Uvek). There are analogies to some Golden Horde vessel shapes in the culture of the Alan population of the North Caucasus at an earlier time. In Bolgar and Alan ceramics there are analogies to the pinched-in horizontal handles on kettle-like and pot-like vessels.

Single-handled pitchers with spout, of Division 2 and 3, find analogies in the XIVth century ceramics of Central Asia, in particular at Khorezm (Vakturskaya, 1959, Illustration 38, fig. 1) and in Transcaucasia (Kabala). Two-handled pitchers evidently originate from the amphora-like vessels widespread in pre-Mongol times along the northern Black Sea littoral. Deep bowls of Divisions 1 - 3 are known at Karakorum, and this form was probably taken over from there by Golden Horde potters.

Large and smaller storage jars, yamas, digirs, tuvaks, and lids of Divisions 1 and 2 were evidently borrowed from Central Asiatic ceramics. Lamps of Divisions 1 and 2 were very widespread both in Volga Bolgaria and at Sarkel - Belaya Vezha - on the Don.

Sphero-cones have much in common with the sphero-cones of Transcaucasia and particularly with those of Central Asia.

As for distribution of the forms of Volga ceramics among Golden Horde cities, it was irregular. Thus for example pot-like vessels with two handles, of Division 2, and also handled pitchers without spout, of Divisions 2 and 3, and coin-banks (Division 1), are encountered in the Golden Horde cities of the Prut-Dniestr mesopotamia, but other forms are absent from there (Polevoi, 1969, plates XXII, XXIII). Kettle-like vessels are well known in Volga Bolgaria, in the ceramics of which there are in general during the Golden Horde period many features of resemblance to lower Volga ceramics of the XIVth century. Probably kettles appear at the same time in both regions, so that pre-Mongol forms of Bolgar ceramics find no progeny in these forms common to the whole of the Golden Horde Volga. Volga ceramics show similarity to the ceramics of the XIVth-XVth century medieval cities of central and western Kazakhstan.

In Azov red-clay unglazed ceramic ware is almost identical with that of the lower Volga. But certain forms at Azov are different - for example the deep bowls (Galkin, 1975, Illustration 5, fig. 23).

White-clay and Gray-clay Ceramic Ware

Aside from red-clay unglazed ware there was gray-clay and white-clay unglazed ware (rarely with a partial covering of glaze) in the Golden Horde cities. It was represented by two groups.

Group I. Without Stamped Ornament

This ceramic group is rarely encountered. These are thin-walled, well-kilned vessels with incised ornament (Illustration 56, fig. 10), frequently complicated and sometimes of plant forms, and filled with pricked points (Fyodorov-Davydov, 1964-2, Illustration 12, fig. 3). Sometimes the ornament was applied in the form of broad horizontal bands, traversed by incised vertical lines or by lines left by running a toothed stamp across. There are fragments of bowls with "spoon-fluted" side walls and with horizontal or vertical ribbing.

One does find, but very rarely and in small fragments, light-gray vessels without glaze, relief, or incision but with painting in black or red pigment and gilding with gold-leaf outlined with a black line (Illustration 56, fig. 9).

Group II. With Stamped Ornament

The ornament was impressed in large ceramic moulds - "kalypa," as they are called in Central Asia. The handles are always oval in cross-section. The forms of these vessels are as follows:

Division 1 Pitchers without handles.

Type 1. With annular bottom-rest and with body spherical above and conical below, the low broad neck with straight rim. Dimensions (in cm.): Diameter of neck, 5; greatest diameter of body, 21; diameter of bottom, 8.5; height, 21; height of neck, 1.5.

Division II Pitchers with handles.

Type 1. With annular bottom-rest, globular body, broad and tall neck expanding upward, with upper end of handle attached to middle of neck. Dimensions (in cm.): Diameter of neck, 5.5-6.5; greatest diameter of body, 12.5; diameter of bottom, 5; height, 17; height of neck, 9.

Type 2. (Illustration 59, fig. 4). With annular bottom-rest, globular body, narrow and tall neck expanding slightly upward, the upper part of the handle attached to the neck beneath the rim (Yakubovski, 1931 - 2, Illustration 32; Grekov and Yakubovski, Illustration 45; Fyodorov-Davydov, 1976, Illustration 123, 124). Dimensions (in cm.): Diameter of neck, 3.5 - 4.5; Greatest diameter of body, 19-22; diameter of bottom, 3.5-5; height, 25; height of neck, 8.5.

Division III Canteens with Two Handles.

Type 1. With disk-shaped body lacking bottom, the neck narrow with everted rim; has two loop-shaped handles the upper ends of which are attached to the neck beneath the rim. Dimensions (in cm.): Diameter of body, 26; diameter of neck, 3; height of neck, 5 (Papa-Afanasopulo, 1925, Illustration 8).

Type 2. Same, both ends of the handles attached to the body next the neck (Illustration 53, fig. 2; Mukhamadiyev, 1974, fig. 5).

Division IV Canteens with Single Handle

Type 1. (Illustration 59, fig. 1). With disk-shaped body, broad tall neck with expanded section below; the handle attached to the base of the neck. Dimensions (in cm.): Diameter of body, 21; diameter of neck, 6; height of neck, 11.

Division V "Aquarius" flasks

Type 1. (Illustration 59, fig. 5). With disk-shaped bottom rest, body in form of a flattened ellipsoid, a broad pouring aperture to one side, and two handles attached in an inclined position.

Division VI Lids

Type 1. (Illustration 58, fig. 3). Lids analogous in shape to the red-clay ones of Division 2, but small (diameter 5.5 - 6.5 cm.), since they were intended for pitchers of Division II.

Ornamentation of Stamped Gray-Clay Ceramic Ware

The ornamentation of stamped gray-clay utensils is very complicated and dense. One frequently encounters bands made up of rows of triangles and stars. Some vessels have ornament in the form of stars deeply incised by means of a special stamping tool that has cutting edges (Grekov and Yakubovski, 1950, Illustration 48). There are canteens of Type 2 where the flat flanks are ornamented with stamp-impression bands that make up a circular composition with a star at the center and having zigzags and triangles in the zones at the sides (Mukhamadiyev, 1974, Illustration 5).

Medallions in the form of a four-petal rosette with an oval figure and a trefoil are characteristic (Bulatov, 1969 - 2, Illustration 3, fig. 4).

Rosette flowerlets are widely encountered on this ware (Fedorow-Dawydow, 1972, Illustrations 79, 80); also a lotus flower whether in isolation (Illustration 56, fig. 5, 6; Illustration 58, fig. 2, 5) or in round and figural medallions set as a narrow, undulating band. On a canteen of Type 1 ten medallions bearing rosettes run around a central field; in the center there is a circle with three small hares, and around it there are dots and fishes; between the medallions and the edge there are lotus flowers (Papa-Afanasopulo, 1925, Illustration 8). An ornament in the form of a lotus flower is sometimes accompanied by "lucky knots" and zigzags (Illustration 58, fig. 2).

A canteen with a single handle is ornamented on the flank surfaces with a hatched annular band; within it there is a circle having squares inscribed in it (Illustration 59, fig. 1). The segments formed and one angle of a square are cross-hatched, and in the square is a complicated figure of plant elements, and around it groups of small rosettes (AM). (See list of abbreviations).

There is a handled pitcher of Type 1 from Old Orkhei in Moldavia that is decorated with belts of diamond-rhombuses and with bands at the neck. In its upper part the body is decorated with a broad belt divided by vertical lines into trapezoids in each of which there are two lotus flowers. The lower part of the body is filled with circlets, and along the very bottom there run five small belts of palmettes (Byrnya and Shcherbakova, 1973, Illustration 3). The vessel is apparently an importation from the lower Volga.

One handled pitcher of Type 2 from the Tsarevo site (Illustration 59, fig. 2) has a number of annular belts consisting of small squares, diamonds, and circlets, plus ovals containing rosettes and ovals containing a "Christmas-tree" pattern. In the middle belt the Arabic words for "good fortune" and "glory" are written in a naskhi hand, together with plant shoots. The hand is different from the writing of the same word for "good fortune" on glazed ware (Yakubovski, 1931 - 2, Illustration 32; Grekov and Yakubovski, 1950, Illustration 45; Fyodorov-Davydov, 1976, Illustration 123, 124).

At the Tsarevo site there was found an aquarius canteen with incised annular lines on its bottom and a number of horizontal zones of

stamped ornament on the body: a spiral ornament bearing leaves; beneath this zone, one free of ornament at the place where the lower and upper parts of the vessel meet; lower down, belts filled with impressions in the form of ovals and arcs. On the upper surface of the vessel there is a zigzag ornament against a background of circlets; it runs around an annular zone filled with circular ornament (Sarai 314).

There is a large fragment, apparently from a handle-less pitcher of Type 1, that has a smooth unornamented middle zone, and an upper zone filled with vertical strips of "Christmas-tree" ornament, between which rosettes and lotus flowers are placed upon a dotted background; in the lower zone there are rows of ovals (Fyodorov-Davydov, 1966 - 2, Illustration 12).

A gray-clay pitcher of Type 1 comes from Tereshchenko's excavations at the Tsarevo site. The main ornamented zone is occupied with medallions in the form of four-petal rosettes with a Persian inscription conferring a blessing; between these are plaited patterns. Below and above there are belts of commas, and at the bottom there is an ornament in the form of a diagonal lattice. The major elements of the decor are covered with opaque turquoise glaze (Papa-Afanasopulo, 1925, Illustration 9; Yakubovski, 1931 - 2, Illustration 30).

This is not a rarity for gray-clay stamped ware: some elements of the ornament were frequently highlighted with opaque turquoise and ultramarine glaze. The middle areas of pitchers were left without stamped ornament as a result of the technology, so sometimes they were covered with strips of glaze. There are fragments of a pitcher on the central part of which the Arabic word for "good fortune" has been inscribed in light-blue glaze. Below this there are small belts of stamped ornament, including ornament in the form of miniature hares (Fedorow-Dawydow, 1972, Illustration 100; Fyodorov-Davydov, 1976, Illustration 121). The word for "good fortune" is generally speaking often encountered on stamped ceramics (Illustration 59, fig. 4; Fyodorov-Davydov, 1964 - 2, Illustration 12, fig. 1; Fyodorov-Davydov, 1966 - 2, Illustration 12; Fedorow-Dawydow, 1972, Illustration 81). There are images of hares (Illustration 56, fig. 5; Fyodorov-Davydov, 1970, Illustration 12, fig. 1) and of fishes (Illustration 36, fig. 2; Illustration 58, fig. 5). There was also a flying-bird motif. There are vessels on the surfaces of which stamped ornament of the types described (in particular the "Christmas-tree" motif) is combined with deep vertical ribbing created by the same mould.

There are rare gray-clay stamped vessels that are covered with green lead glaze.

A fragment of some sort of special vessel (Illustration 36, fig. 3) of reddish clay with illegible stamped pseudoepigraphic ornament in the form of a band was brought to light at the Selitryonnoye site (Fedorow-Dawydow, 1972, Illustration 67).

On gray-clay stamped pitchers the ornament brings out the structure of the globular body. It is built in annular horizontal zones, in which connection the zones that fall to the narrowing parts of the vessel's body are narrower and are covered with small patterns,

while those that fall to the expanded parts of the body are broad and often bear freely arranged epigraphic decor against a dotted background. The letters, in the style of the picturesque "naskhi" hand, are delicate, and the background is not overloaded with details; these ornamental strips emphasize the expansion of the vessel's form.

Frequently the main lines of a pattern blend more and more with the minor ornament of the background. Perhaps this arises from a falling-off in technical accomplishment; but an impression of sharp draftsmanship and relief yields place to one of "blurred" or even, so to speak, "smeared" surface. Possibly it was this that led the masters of the Golden Horde and of Khorezm, feeling a lack of sharpness, of distinctness, and of clarity in such ornament, to introduce color into what had earlier been a monochrome stamped ornament.

Stamped gray-clay ware is a sort of utensils borrowed from Central Asia as regards both form and decor (Grazhdankina and Rtveladze, 1971, p. 130) and in some measure from Transcaucasia. The artistic effect of this ware in pre-Mongol Central Asia and Trascaucasia was founded upon a combination of expressive line and tectonic ornament, upon severity and clarity of pure form, and upon nobility of the tone of the fired light clay - a play of light and shade. Eclecticism and barbarization in the style of decorative art in the Golden Horde found expression in the use of the color element in the fine-art ceramics of this sort.

Import Ceramics

A few types of Chinese porcelain are encountered. In the first place these are different variants of the so-called "celadon" ware, the "Lun-tsyuan-Yao". The porcelain-like paste was covered with light-green semi-transparent glaze, sometimes with relief or incised work beneath the glaze. From the Selitryonnoye site we are acquainted with one intact cup that has ribbed walls. Along with the Chinese there are many celadons analogous to that sort of ware from XIVth century Korea. In the second place there is porcelain with dark-blue cobalt painting on a white background beneath transparent glaze. In the third place there is porcelain (Illustration 54, fig. 8) with dark-brown painting on an ivory-colored background - "Tsi-chzhou-Yao" (Grekov and Yakubovski, 1950, Illustration 43; Dudko, 1963, p. 117; Bulatov, 1969 - 2, p. 57). There are porcelain manufactures in the form of small rectangular boxes on short legs. As compared with the local glazed ware, the porcelain fragments make up only a small fraction (about 1%).

A large fragment of a vase of dense grayish-white siliceous-earth paste close to porcelain was found at the Selitryonnoye site. On the outside of the vessel there is relief design with overglaze gilding. The relief is created by thickening a mass high in siliceous earth applied upon the opaque glaze. The glaze is of a light-bluish color. The vessel bears a Chinese motif - a little bridge across a river, a boat, aquatic plants and flowers upon the water, and an inscription in Arabic letters. This vessel is identified as the work of Iranian masters imitating Chinese porcelain (Bulatov, 1979).

Among the glazed red-clay ware one occasionally encounters

fragments of flat saucers having a light-rose very dense paste different from the usual red-clay ceramic paste, either with or without incised design (Illustration 61, fig. 3). This is apparently ceramic ware imported from the Crimean centers (Fyodorov-Davydov, 1964 - 2, Illustration 13, fig. 6; Bulatov, 1969 - 2, p. 57-59, Illustration 3, fig. 5).

There are deep bowls imported from Khorezm that are of the dark-gray almost black clay characteristic for the Khorezm ceramics of that time. They always have burnished ornament, and sometimes a band of vertical depressions upon the outside surface. There were also imported from Khorezm large pitchers having massive handles (Diameter up to 3.5 cm.) round in section, different from the oval or almost flat handles of Golden Horde pitchers. The handles have a certain amount of compression at the upper end, and sometimes there are at the junction with the body broad fan-shaped incised lines. These pitchers had bodies conical below and rounded above, and low necks having a roller-like rim with a notch cut in it; the neck was often oval in horizontal plane, and the upper end of the handle was attached to the rim. The body bore horizontal scoring and was often ornamented with vertical and slanting lines made with a sharp toothed comb (Illustration 60, fig. 2). There are analogous pitchers at XIIIth-XIVth century Khorezm (Vakturskaya, 1959, p. 326, Illustration 22, fig. 36, figs. 21, 33).

The Khorezm gray-clay pitchers gave rise to local imitations in the Golden Horde cities. At the Selitryonnoye site there was found a red-clay vessel having a handle round in section bearing the same sort of ornament at the base, the neck low (4 cm.), and the body broad and egg-shaped (Maximum diameter 24 cm.). There are a few examples of unglazed bright-red burnished ware (Sarai 361) that were brought from Transcaucasia; they are particularly familiar in the pre-Mongol strata of Dvin in Armenia.

CHAPTER VI

ARCHITECTURAL DECORATION

Public buildings and wealthy private ones in the Golden Horde cities were covered inside and out with polychrome decoration. In this respect the culture of the Golden Horde is exceptionally rich and variegated.

Classification of the Forms of Architectural Decoration

Architectural decoration can be divided into several orders depending on material and purpose.

Group I. Mosaics of Kashi Components

These covered large areas of the outer surfaces of buildings and made up large panels, friezes, cornices, and the like. The basis of these mosaics consisted of individual units cut to shape from small slabs moulded in kashi and ordinarily covered with opaque glaze in hues of deep violet, white, light blue, red, and yellow. Units covered with a delicate gold leaf appear. The thickness of the small slabs was 4.5 cm.

Round mosaic panels are known (diameter about 1 meter) which were set into the unornamented brick surface of a wall (Illustration 62, fig. 1).

Group II. Majolica Tiles of Kashi

These were rectangular tiles with painting applied; they were set one beside another and made up an integrated ornamental panel. So as to maintain order in arranging them, symbols and stock numbers (Illustration 63) were utilized, written so as to be imperceptible from the face (Matveyeva, 1959, Illustration 3).

A classification of kashi majolicas was made by L. M. Noskova (Noskova, 1972 - 1; Noskova, 1973; Noskova, 1976, p. 22).

Division I With underglaze painting, sometimes on relief, beneath transparent glaze (Illustration 63, 64). This was used in building up the outside walls of buildings and in facing epitaphs (Noskova, 1976, Illustration 2). Half-columns and quarter-columns are encountered, also elements of architectural "stalactites" (a special modelling, in the form of niches, within buildings having cupolas, at the transition from the multiple-faceted rotunda to the cupola), and cornices with a majolica surface (Voskzesenski, 1967, Illustration 1, fig. 2, 9, 11, 12). Light blue, dark blue, green, and white hues prevail.

Division II With overglaze polychrome painting plus gilding, sometimes with relief, on an opaque white, turquoise, or ultramarine glaze. This is a more delicate and more carefully executed sort of majolica. These may have been used for the decoration of walls and epitaphs (Illustrations 65-70). It has been established that majolicas with overglaze painting were used for ornamentation of the inside walls of the hall of the large residential building on the Selitryonnoye site (dig XI).

There are tiles completely covered with gilding or with a drawing executed on a white background by means of gilding pigment alone. Just as in ceramic ware, gilding was carried out by pasting delicate gold leaf to the object, and the drawing was almost always edged with red.

Division III With underglaze and overglaze painting (Illustration 67, fig. 1), with transparent colorless glaze, and painting in white, with slight relief, against an ultramarine background (Noskova, 1976, Illustration 4).

Division IV With opaque white or ultramarine glaze and ornament scratched through it.

Division V With opaque ultramarine glaze but no painting. We are acquainted with cross-shaped kashi tiles of this type with the ends cut off obliquely; these, along with square tiles or terracotta slabs, apparently made up continuous ornamental compositions over large surfaces of buildings.

Division VI "False mosaics" of red clay. The design had a deeply penetrating line that separated the color fields, which were decorated with opaque glaze. The impression of a mosaic assembly was created. Not only the flat surfaces of buildings were ornamented with "false mosaic", but also architectural "stalactites".

Group IV. Glazed Bricks of Kashi and Red Clay

They had one side covered ordinarily with opaque monochrome glaze - light blue, ultramarine, white, yellow. The other sides were unglazed, and the flat flanks were scored to give a better grip to mortar. Sometimes the lime joins between bricks were deliberately made broad so as to endow them with decorative meaning. These bricks were used to lay out large ornamental panels, usually on high building surfaces at a distance from the beholder (Ballod, 1923 - 1, Illustration 28, fig. 2; Noskova, 1972 - 1, Illustration 1, fig. 1; Rtveladze, 1969, Illustration 1). Sometimes glazed bricks projected a little beyond the surface laid with ordinary bricks, and through this the effect of a play of light and shadow was created.

Group V. Glazed Tablets of Red Clay

Floors and walls were faced with hexagonal tablets covered with opaque turquoise or ultramarine glaze.

Group VI. Carved and Impressed Terra-Cotta Tablets of Dense Reddish-Yellow Clay, Unglazed and Glazed. (Illustration 71 - 82)

Such tablets were usually covered with opaque white or light-blue glaze. At the Tsarevo site there was found a carved terracotta tablet covered with opaque green glaze (F. V. Ballod, 1923 - 1, Illustration 28, fig. 1, p. 112). A great deal of unglazed carved terra-cotta is found as semi-manufactures prepared to be covered with glaze later on. But from time to time one finds what are evidently finished wares in the form of carved terra-cotta tablets without glaze. Impressed tablets were distinguished by less pronounced relief. This form of architectural decoration was used to ornament the flat surfaces of walls, cornices, angles, epitaphs, and the like (Ballod, 1923 - 1, Illustration 17, fig. 1, 2; Noskova, 1972 - 2, Illustration 1, fig. 4; Illustration 2, fig. 2, 4).

Group VII. Carved and Impressed Ganch

Tablets of an alabaster of special composition having a grayish-white color and carved and pierced decoration (Illustration 83-84). These were used to form the interior walls of buildings, more rarely exterior walls and stalactites. Window openings were closed with lattices of pierced and carved ganch with glass, sometimes colored, glued to it on the interior side (Illustration 83, fig. 3).

("Impressed" ganch, as alabaster, will be understandable if one takes the term to include also man-made slabs of dense gypsum, i.e., a special plaster of Paris - Tr).

Sometimes wavy lines in relief were made on the simple stuccoing that covered the inward walls of rooms (Illustration 83, fig. 9).

Group VIII. Stone/slabs with Carved Ornamentation

These are found comparatively rarely. They were of marble and of less expensive sorts of stone. Stone was used to make the lids of absorption sumps, with star-shaped ornamentation (Illustration 62, fig. 2; Ballod, 1923 - 1, Illustration 5, fig. 3).

Group IX. Painted Stuccoing

In order to decorate the interior walls of rich buildings use was made of painting on dried stucco (the al stucco technique). The painting was executed mainly in black, red, and brown pigments (the outlines), and rarely in green, yellow, and dark blue; sometimes the work on stucco was emphasized with gilding and relief (Ballod, 1923 - 2, Illustration 25-26; Dovzhenok, 1961, p. 189).

Ornamentation in Mosaic In Golden Horde mosaic work plant patterns are represented by shoots that do not repeat, something which distinguishes them from Central Asiatic mosaics, more markedly subjected to symmetry and to repetition of a single composition. Mosaics decorating large areas most frequently represented branches with buds, leaves, and flowers. The flowers in the form of rosettes or stars remind one of yellowish-white forget-me-nots, narcissi with red centers and white

petals, white lilies and carnations, tulips with white and red petals, small flowers in the form of trefoils, yellow flowers of six petals with a turquoise center, and the like (Fyodorov-Davydov, 1964 - 2, Illustration 8; Noskova, 1972 - 1, Illustrations 1, 2, 3). The shoots frequently curl into spirals, and sometimes they are enclosed within medallions. The shoots are usually turquoise in color. Arched ornament is included within plant patterns. One encounters the motif of a plant shoot which divides into two and thereby forms a medallion (Grekov and Yakubovski, 1950, Illustration 49, 50; Fedorow-Dawydow, 1972, Illustration 70; Noskova, 1972 - 1, Illustration 1, fig. 4; Noskova, 1976, Illustration 1; Fyodorov-Davydov, 1976, Illustration 74-80).

Mosaics were also used to form cornices and borders. In these we find the same flowers and buds on white and turquoise stems. The pattern was usually drawn out in a single strip. There is alternation of plant and of geometrical motifs, or geometrized plant subjects (Ballod, 1973 - 1, Illustration 5, fig. 2; Fedorow-Dawydow, 1972, Illustration 68; Noskova, 1976, Illustration II).

There are mosaics that decorate curving surfaces in buildings or the "stalactites" of cupolas. They are also ornamented for the most part with plant motifs (Noskova, 1976, Illustration III; Fyodorov-Davydov, 1976, Illustration 72).

Geometrical ornament on mosaics is used most frequently in the cases of borders and cornices, rarely in large panels (Fyodorov-Davydov, 1976, Illustration 73). Sometimes geometrical figures were linked together into a vignette in the form of a small bow or heart (Ballod, 1923 - 2, p. 24-25; Noskova, 1976, Illustration IV).

Epigraphical ornaments were used - white letters in the naskhi hand (Illustration 62, fig. 1), and "blossomed Cufic", sometimes among yellow and turquoise shoots, ordinarily against an ultramarine background (Fedorow-Dawydow, 1972, Illustration 69; Noskova, 1976, Illustration V).

There are mosaic fragments having ultramarine and turquoise geometrical elements with additional overglaze painting in gold. There are gilded mosaic inserts.

Use was made of mosaic arrays that included large unglazed and unornamented terra-cotta slabs, octagonal and hexagonal, oval, almond-shaped, and the like, sometimes projecting above the mosaic surface.

In Golden Horde mosaic work the lotus motif is very rarely used - it is encountered only on one fragment from A. V. Tereshchenko's excavations at the Tsarevo site. The lotus flower is enclosed within a complicated figure of the type of the Central Asiatic "madokhiliya" - this is the name given in Central Asia to medallions with a special complicated contour (Rempel, 1961, p. 234).

Ornamentation of Majolicas with Underglaze Painting

Kashi majolicas with underglaze painting usually take the form of

rectangular tablets which were made up into a decorative panel. But tablets are found in the form of polygons with a bowl-like depression at the center - these were separately inserted units for the decoration of walls.

Chrysanthemums, lotuses, and large flowers on long bowed stems with carved leaves were represented (Illustration 63, 64. fig. 3; Ballod, 1923 - 2, Illustration 24; Matveyeva, 1959, Illustration 1, fig. 1-8, Illustration 2, fig. 3; Voskresenski, 1967, Illustration 2, fig. 1-4; Noskova, 1976, Illustration VI, fig. 1-3).

In forming borders, flower and plant compositions were set in a line (Illustration 64, fig. 1-3). The ornament was frequently drawn into a figure of "madokhiliya" type or into festooned arches (Matveyeva, 1959, Illustration 1, fig. 2, 7, 8; Illustration 2, fig. 4-5; Voskresenski, 1967, Illustration 2, fig. 6-7). Sometimes "madokhiliyas" and plaitings made up a cruciform composition around a square. Ornament consisting of repetitions of a single pattern of leaves, flowers, and buds is encountered (Matveyeva, 1959, Illustration 2, fig. 4, 5).

Shoots frequently formed spirals. Geometrized ornament is found where shoots form cruciform figures or a plaiting made up of a writhing tendril. There are various compositions made with trefoils. Sometimes whole bouquets of flowers similar to forget-me-nots, water-lilies, and closed buds were drawn into figural medallions. Lotus flowers often have a mushroom-like pistil; sometimes there is a small four-petalled rosette above the flower. The petals of chrysanthemums, other flowers, and leaves usually were outlined with black strokes (Noskova, 1976, Illustration VI, fig. 1, 3, 4, 6; Matveyeva, 1959, Illustration 2, fig. 2, 3). Large split leaves, with their tips twisted into spirals, are characteristic. Typical for Volga Bolgaria (Illustration 63) are lotus flowers with a multitude of extra petals, flowers with a tripartite heart and eight carved petals, and also flower or buds in the form of little wreathes having an oval center (Matveyeva, 1959, Illustration 2, fig. 2, 3). Flowers are encountered (Illustration 64, fig. 1, 3) that have six separated petals similar to trefoils (Noskova, 1976, Illustration VI, fig. 5). The design of leaves and flowers on majolica is substantially different from the drawing on mosaics.

A majolica insert has been preserved which has the form of a large polygon with a bowl-like center inside which there is a hemispherical depression. At the edge, under turquoise glaze, there is drawing in black in the form of strips of plant shoot with small lotus flowers and leaves of complex outline. Inside there is a plaited border and a small strip of "Christmas-tree" ornament (Fyodorov-Davydov, 1976, Illustration 83; Noskova, 1976, Illustration 1).

Geometrical ornaments on majolicas with underglaze painting are built up on the principle of alternation of simple geometrical figures - diamonds, hexagons, arches, rosettes, circles, stars, plaitings, knots borrowed from epigraphic ornament, stylized flowers, and the like (Illustration 64, fig. 1, 2). So-called "herikhs" are formed, a pattern characteristic for Muslim ornament (Matveyeva, 1959, Illustration 1, fig. 3, 11; Voskresenski, 1976, Illustration 1, fig.10;

Fyodorov-Davydov, 1970 - 2; Noskova, 1976, Illustration VII, fig. 1-4). Variegated patterns made up of narrow plaited strips in combination with plant motifs are striking (Voskresenski, 1976, Illustration 1, fig. 1-9). Borders with ornament in the form of thwartwise strips of differing colors (white, light blue, dark blue) separated by black lines, or in the form of zigzags of these same colors, are characteristic (Noskova, 1972, Illustration 3, fig. 2).

Epigraphic ornaments are encountered (Illustration 64, fig. 4) - white inscriptions in naskhi or "blossomed Cufic" hand against a dark-blue background. Inscriptions are often interwoven with plant shoots (Matveyeva, 1959, Illustration 3, fig. 1 - 5; Voskresenski, 1967, Illustration 3, fig. 9; Fyodorov-Davydov, 1968, p. 131; Fedorow-Dawydow, 1972, Illustration 96; Noskova, 1972 - 1, Illustration 3, fig. 6; Noskova, 1976, Illustration VII, fig. 5 - 10). There is a tile with ultramarine cobalt painting on a white background, having leaves and shoots in a square central zone and Persian verses at the edges (Kverfeld, 1947, p. 90; Grekov and Yakubovski, 1950, Illustration 51; Fyodorov-Davydov, 1976, Illustration 82).

Ornamentation of Majolicas with Overglaze Painting

In one of the rich houses at the Selitryonnoye site (dig XI) a considerable number of majolica tiles with overglaze painting were found - the remains of the decor of the large central hall of this house. This makes it possible to determine the general system of the ornamentation. The walls were decorated with large panels built up from among these tiles. The basis of the display consisted of ten-pointed stars. Pentagonal inserts were placed between these (Illustrations 65, 66). Use was also made of inserts in the form of two conjoined triangles, irregular diamonds, and figure-eight-like shapes (Illustration 67, fig. 1, 2, 5). The stars had white edges, a green strip along the edge, white inscriptions or a white twig of plant ornament, and a central field in the form of a ten-pointed star with an ultramarine background, the field decorated in various ways; either large dots and rosettes surrounded by triangles (Illustration 66, fig. 2, 4) or by diamonds bearing gilding; or else an arabesque plaited of white and yellow strips, within the pentagonal cells of which gilt stellate rosettes were placed; or else cross-like figures outlined by a narrow gilt strip and with dots at their centers; or else a continuous arabesque, within the small cells of which dots were placed (Illustration 66, fig. 1). Sometimes complicated patterns of white and golden shoots, leaves, and lotus flowers were used (Illustration 65, fig, 2, 3). The borders of all these zones of ornament were emphasized with gilded strips.

Pentagonal inserts with a gold strip at the edges bear more uniform design. A spiralling white shoot was applied upon an ultramarine glaze. In the spiral of the shoot there were frequently gold rosettes, stars, and pentagons (Illustration 65, fig. 1).

Borders were doubled (Illustration 68, fig. 1, 3). The outermost narrow strip was made up of elongated tiles covered with turquoise glaze bearing dark drawn plant shoots sometimes having small red diamonds on the center line and small gold rosettes in alternation

between these. Sometimes red rosettes with narrow petals were placed between the gold rosettes. The inner strip was of broad slabs bearing polychrome painting with gilding upon a white background: red, yellow, brown, and green hues with a dark outline. One and the same element of the design could be given various hues, and on that account the color lost its locational character. The designs represented flowers of multiple petals - a complicated variant on the lotus flower, with an oval heart containing a small rosette, flowers in the form of multiple-petalled rosettes, and five-petalled flowers with two leaves at their bases, shown in side view. On the tendrils there are pear-shaped buds or flowers of tulip appearance, and complicated leaves and trefoils. Also represented were elaborate flowers consisting of trefoils as petals set around a figural heart. These inner borders were of two varieties - broad and narrow. Sometimes strips for a narrow border were cut down from slabs that had been intended for a broad border. All units had a white edge and a narrow gold strip along the edge. In some instances the border strip was made up of majolica tablets upon each of which there was a narrow stripe against a white background bearing polychrome overglaze painting with gilding, the hues being a warm reddish-brown plus green, analogous to the broad inner borders examined above. Along this narrow stripe and upon the same tile there ran a broad band with polychrome underglaze and at the same time overglaze painting with gilding, the whole upon an ultramarine background.

In addition to this complex of majolicas with overglaze painting we should also mention other approaches of a similar character. Analogous tiles in the form of stars with white inscriptions on a green strip at the edge were found by A. V. Tereshchenko at the Tsarevo site (Kverfeld, 1947, p. 89; Sarai 1468, 1489, 1490, 1493, 1494). The same sort of tiles was found at various points on the Selitryonnoye site (Noskova, 1972 - 1, Illustration 4, fig. 1, 2; Noskova, 1976, Illustration VIII, fig. 1, 5; Fyodorov-Davydov, 1976, Illustration 84, 86, 87, 90). There are narrow borders with polychrome overglaze painting on a white background that reminds one of the flowers that were placed on a bowl having polychrome overglaze painting on a white background (Fyodorov-Davydov, 1976, Illustration 85; Noskova, 1976, Illustration VIII, fig. 4). Double rosettes with a star in their centers are characteristic for these.

Of particular interest is a fragment of a tile (Illustration 69, fig. 1) which again has a white inscription at its green edge, but also the image of a man wearing a green cap and surrounded by light gray-blue plant shoots, with gold strips separating one zone of ornament from the next (L. L. Galkin, 1968; Noskova, 1972 - 1, Illustration 4, fig. 6; Fyodorov-Davydov, 1976, Illustration 89).

One encounters ultramarine tiles with six-pointed stars drawn in red outline and with white dots within them (Noskova, 1972 - 1. Illustration 4, fig. 5; Fyodorov-Davydov, 1976, Illustration 88). During A. V. Tereshchenko's excavations at the Tsarevo site three hexagonal tiles were found. At the center of one of them there was a small rosette with a six-rayed star at its heart. Trefoils were attached to the petals of the rosette. Between these there were again trefoils. Vignettes of shoots bearing leaves were placed in the angles

of the star. The background was turquoise, the design was gilded, and there was a red outline. A second tile has at its center a hexagonal composition of small diamonds and the same sort of vignettes of leaves and shoots in the angles. The background is turquoise and the design is applied in green and ultramarine pigments with a red edging (Voskresenski, 1967, Illustration 4, fig. 5; Noskova, 1976, fig. 8). The third tile represents a white six-petalled rosette, filled with dots, at the center (L. M. Noskova, 1976, Illustration VIII, fig. 6; Sarai 130, 132).

Geometrical patterns assume in the main the form of triangular or hexagonal figures; these were ordinarily made up of red diamonds having black dots within them. One encounters a pattern of such diamonds, but on tiles having a turquoise background. As an example we may take a kashi tile (Illustration 69, fig. 3) of complex contour in the A. V. Tereshchenko collection (Voskresenski, 1967, Illustration 4, fig. 3).

Stars having rays made up of strips of gold leaf, outlined in red, in combination with delicate spiralling white tendrils on an ultramarine background are characteristic (Voskresenski, 1967, Illustration 4, fig. 2).

There are encountered compositions made up of four - or eight-pointed stars and of squares, and having rosettes formed by their intersections; these include elements of plant ornament in the form of buds. The painting is yellow, red, white, and ultramarine, on a turquoise background, and the outlines are red (Noskova, 1972, Illustration 4, fig. 4; Fedorov-Davydov and Poluboyarinova, 1976, fig. 4).

Aside from the tiles described above where epigraphic ornament performs the secondary function of a border, such ornament is also encountered as an independent principal motif. From the Tereshchenko excavations at the Tsarevo site we have a tile with a white background and a relief inscription in a naskhi hand, executed in gold with a white outline. Between the letters there are delicate dark-brown plant shoots (Kverfeld, 1947, fig. 88). Another tile (Illustration 70) from the same collection, executed in the same technique and with the same palette, offers plaited patterns with plant shoots at their edges (Sarai 1505, 1506; Voskresenski, 1967, Illustration 4, fig. 6).

Of interest is a majolica in the form of an eight-pointed star with relief ornament and an opaque white glaze which bears blue and green overglaze painting with gilding upon a white background (Voskresenski, 1967, Illustration 4, fig. 5).

Small elongated majolica slabs of kashi with indented (Illustration 68, fig. 2) or pointed (Illustration 67, fig. 4) ends, bearing ultramarine glaze and white overglaze ornamentation, sometimes with gilding and outline in red, were quite widely distributed (Ballod, 1923 - 1, Illustration 30; Voskresenski, 1967, Illustration 4, fig. 1; Galkin, 1968, Illustration 1, fig. 3). Sometimes slabs of the same hue assume the form of crosses. These slabs were used to make up large panels (Galkin, 1968, Illustration 2).

Ornamentation of Other Forms of Majolica

On majolica tablets combining underglaze and overglaze painting and having transparent glaze the decor consisted of a combination, on the one hand, of plant shoots with leaves, rosettes, and also lotus flowers (Illustration 67, fig. 3), trefoils of a special shape, and sometimes epigraphic ornament against an ultramarine background - all of these being characteristic for majolicas with polychrome underglaze painting and relief - with motifs, on the other hand, from the decor characteristic for overglaze paintings on tiles: in particular, double rosettes with round petals.

"False rosettes" are often encountered with simple striped blue and white ornament (Noskova, 1972 - 1, Illustration 5, fig. 1). There are tiles with concave surfaces, for niches forming "stalactites". They are decorated in the "false mosaic" technique with Christmas-tree ornament in bands of contrasting colors (Fyodorov-Davydov, 1976, Illustration 81; Voskresenski, 1967, Illustration 4, fig. 9). One encounters "false mosaics" with ornamentation in the form of plaited strips: the strips which intertwine with each other are decorated in dark blue, the background being white. There are ornaments on this type of tiles which assume the forms of white stars and hexagons on a blue background (Noskova, 1972 - 1, Illustration 5, fig. 2). There are more complicated arabesques of geometrical figures (Noskova, 1972 - 1, Illustration 2, fig. 2).

Majolicas with a design created by scraping away part of the glaze ordinarily produce the simplest of ornaments - in the form of stars and rosettes with a circle at their center, or of an inscription in a naskhi hand (Ballod, 1923 - 1, Illustration 29, fig. 1, 2; Noskova, 1976, Illustration VIII, fig. 8, 10).

Ornamentation of Incised and Impressed Terracottas

For tablets of incised terracotta an edging bordering the design (Illustration 71, fig. 1), in the form of strips with alternating four-petalled rosettes and circles (Fedorow-Dawydow, 1972, Illustration 60; Fedorov-Davydov and Poluboyarinova, 1976, Illustration 3), is highly characteristic. Another sort of strips is decorated with rows of impressed rosettes (Fedorow-Dawydow, 1972, Illustration 65) analogous to the rosettes on a number of borders in majolicas having underglaze painting (Illustration 67, fig. 3). Strips are found which are decorated with rows of trefoils (Fedorow-Dawydow, 1972, Illustration 64). There are also intertwined figures consisting of strips decorated with a running-spiral motif and with one of tendrils bearing trefoils (Illustration 71, fig. 21; Illustration 73, 74).

Elaborate plant ornament fills broad areas bordered by these strips. Shoots curl up into tight spirals with trefoils inside them (Illustration 76, 79). Running spirals one beside another (Illustration 75, fig. 2) are characteristic elements of the decor. Rather typical for this form of architectural decor is the motif of a cross-shaped medallion with small rosette flowerlets at the ends and an arabesque quadrilateral figures in the center (Illustration 73, 79). One encounters medallions in the form of circles, of a trefoil, of a

heart-shaped figure, of hexagons, of four-petalled rosettes; in the form of a "madokhiliya". Within these is a complex plant ornament. We are also familiar with complex cross-shaped compositions of intertwined lines and flowers (Polimpsestova and Runich, 1974, Illustration 4, fig. 1, 2).

We find tablets of incised terracotta which made up a border showing lotus flowers and flowers resembling tulips arranged in a band (Illustration 72, fig. 3; Illustration 78, fig. 1), the flowers being surrounded with shoots bearing leaves (Noskova, 1972 - 2, Illustration 1, fig. 1).

Epigraphic ornaments on this sort of architectural decor (Illustration 71, 72, fig. 1; Illustration 81, fig. 1) are distinguished by exceptional complication and pretentiousness; they are filled with naskhi writing, generally intertwined with spiralling plant shoots which sometimes grow out of the very letters (Ballod, 1923 - 1, Illustration 23, fig. 1; Fedorow-Dawydow, 1972, Illustration 64; Fedorov-Davydov and Poluboyarinova, 1976, Illustration 3). The inscriptions were enclosed within rectangular frames, between which there were placed figures in the form of "bow-knots" (Illustration 72, fig. 1) with a small rosette at the center (Fedorow-Dawydow, 1972, Illustration 64; Noskova, 1972 - 2, Illustration 1, fig. 2, 3).

One encounters massive slabs of incised terracotta with epigraphic ornament. The letters are put on in a broad white strip from which dark-blue shoots with leaves depart; the background is turquoise.

An ornament consisting of a row of complex "lucky knots" joined together in a strip is interesting (Illustration 74).

One frequently encounters small rectangular terracotta inset tablets in the form of little rectangles or irregular diamonds with four-petalled rosettes or a zigzag; they are usually covered with opaque turquoise or ultramarine glaze (Ballod, 1923 - 1, Illustration 26). From the excavations at the Selitryonnoye site we are acquainted with a large incised terracotta hexagonal slab bearing a six-petalled rosette in the center of which is a starlet while on the petals there are trefoils. Another octagonal unglazed terracotta slab has a puffed-out rosette in the center of an eight-rayed star, from the tips of which stout trefoils extend, with "lucky knots" and small trefoils between the main trefoils (Illustration 80).

The colors of the glazes covering the incised terracottas are white, light blue, and dark blue.

The lotus flower, tulip-like flowers, cross-shaped medallions with an arabesque figure at their centers, epigraphic ornament, figures of "madokhiliya" type - these items bring the ornamentation of this sort of architectural decor close to that of majolica with underglaze painting.

Rarely, yet still sometimes, one encounters terracotta tablets with incision in two planes. Geometrical figures are shown in high

relief, and the plant ornament inscribed within them, as well as the small belts of circles surrounding these geometrical figures, are executed in low relief.

Incised terracotta tablets are found that have a partial covering of the major elements of the ornament with turquoise glaze (Ballod, 1923 - 1, Illustration 3, p. 34).

There are tablets with squares containing squares in turn containing rosettes covered with turquoise glaze, and on the other hand blank squares covered with ultramarine glaze, all arranged checkerboard-fashion (Illustration 77, fig. 1).

Ornamentation of Incised and Impressed Ganch

Incised ganch was frequently decorated with à jour ornament in the form of circles and curvilinear figures or rectilinear geometrical grids (Illustration 83, fig. 3) - a motif widespread in the medieval Muslim world (Noskova, 1972-2, Illustration 2, fig. 6; Illustration 3, fig. 2). Window lattices were incised - the so-called panchzhar slabs. They often had round openings with festooned edges, into which disks of window glass were inserted (Illustration 83, fig. 3; Illustration 84, fig. 2).

Pierced sheets were sometimes applied to smooth surfaces; this gave a relief quality and an expressiveness of the play of light and shade to this sort of decor (Illustration 84, fig. 1).

In the ornamentation of incised ganch use was made of motifs that were favorite ones in incised terracotta (Illustration 83, fig. 6, 7). The same medallion in the form of a trefoil with flowers and shoots, the same spiralling plant shoots, knots, and strips of arabesque (Illustration 83, fig. 2). Grids made up of diamonds and trefoils were characteristic.

Trefoils are found that have the shape of French "royal lilies" in combination with trefoils having two flanking leaflets converted into small circles. The same cross-shaped medallions as on incised terracotta were represented (Illustration 83, fig. 6, 7), with a complicated arabesque having flowers and small trefoils within its coils (Noskova, 1972 - 2, Illustration 3, fig. 3; Illustration 4, fig. 6).

There are plaited ornaments of circles made more complicated by means of plant elements - leaves or buds - sketchily indicated in the form of projections. There are wreathes of petals with a trefoil at the center (Noskova, 1972 - 2, Illustration 2, fig. 5).

From the materials of the Selitryonnoye site we are familiar with a ganch architectural detail in the form of four small columns (Illustration 69, fig. 2); it was evidently intended to be set in the angle of a room between wall and ceiling. It bears plaited patterns ending in trefoils enclosed within pentagonal medallions - a motif also encountered in incised terracotta (Fyodorov-Davydov, 1976, Illustration 92; Noskova, 1972 - 2, Illustration 3, fig. 1, p. 72). In the A. V.

Tereshchenko collections from the excavations at the Tsarevo site there is a small quarter-column with a capital ornamented with small niches. On the barrel of the column is an incised spiral ornament (Sarai 1521). There are other examples of such detail units (Illustration 83, fig. 1). One finds massive fragments of stucco work with small niches incised or impressed into them to form architectural "stalactites".

In the mosque on the Vodyanskoye site there was above the mihrab a slab of ganch with a Cufic inscription and no additional ornament (Yegorov and Fyodorov-Davydov, 1976, Illustration 18). At the Selitryonnoye site there were found narrow horizontal impressed panels of ganch with representations of running beasts (Arkheologicheskiye Otkrytiya for 1968, p. 174; Fyodorov-Davydov, 1976, Illustrations 93 - 99). Impressed ganch tablets were used to decorate not only the interior, but also the outward surfaces, of buildings: the minaret of the mosque on the Vodyanskoye site was decorated with ganch inserts bearing inscriptions and patterns (Yegorov and Fyodorov-Davydov, 1976, Illustrations 19-23).

We are acquainted with ornaments on impressed ganch in the form of intersecting figures - octagons, circles, ovals with thickenings at the points of intersections (Noskova, 1972 - 2, Illustration 3, fig. 4; Illustration 4, fig. 7). This is a motif known in architectural terracotta.

More simplified geometrical ornaments are represented by mere lattices of diamond-shaped cells. An epigraphic motif with trefoils is also found.

There have been preserved some alabaster slabs which served as matrixes for impressing patterns on the still plastic surface of unset ganch. From these one can get a further idea of the ornamentational system for impressed ganch. On the matrixes the pattern is a sunken one. The lotus-flower motif is found (Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, Illustration VIII, fig. 18). From A. V. Tereshchenko's excavations at the Tsarevo site we have some large alabaster matrix slabs. One of these bears a complicated ornament with figures of "madokhilya" type, plus strips of trefoils and flowers of complicated design. On the other side of the same alabaster slab there are images of medallions in the form of trefoils made up of rosette-flowerlets. The thickness of the slab is about 4.5 cm. (Sarai 1582; Noskova, 1972 - 2, p. 74, Illustration 4, fig. 3). On another slab there is a complex plant pattern consisting of bouquets of flowers gathered into a bunch, complicated rosette-flowerlets, and motifs of similar sort (Sarai 1580, 1581; Noskova, 1972 - 2, Illustration 4, fig. 1, 2, 4).

Some ganch window lattices have a projecting edge decorated with red pigment. Sometimes the background of relief ganch tablets, incised or impressed, was decorated with red.

In the large house at the Selitryonnoye site (dig XI) the walls of its central hall were decorated not only with tiles but also with

gilt rosettes of ganch and with heart-shaped terracotta medallions which were also gilt. These were attached to the walls with iron nails.

Origins of the Architectural Decor of the Golden Horde

In studying the architectural decor of the Golden Horde we note that mosaics stand apart in that they have the least traits of ornamentation in common with the other forms of architectural decoration. We shall also note that the "lotus flower" motif is almost entirely absent from the mosaics.

Majolicas with underglaze painting, incised terracotta, and incised and impressed ganch have most of all in common with each other as regards the motifs of their ornamentation.

Majolica with underglaze painting is analogous in technique to kashi ceramic ware with underglaze polychrome painting. This majolica is brought close to such kashi by certain ornamental motifs as well: the lotus flower, chrysanthemums, small rosettes with diamond-shaped petals (Illustration 64, fig. 2), and complicated designs of incised leaves. Yet at the same time the overall compositions are different. A rare type of majolica with black painting beneath turquoise glaze finds an analogy in kashi ceramic ware with the same sort of glaze and painting, but is distinguished from it through its ornamentation - the lotus flower is far from characteristic for turquoise ceramic ware with black painting.

Majolica with overglaze painting stands closer to its ceramic prototype. On ceramics with overglaze painting one can find the same motifs as on this majolica - narrow white spirals of plant shoots with leaflets, red diamonds forming rosettes, rosette starlets with gilding, double rosettes, the shapes of leaves and shoots, the overall palette, etc. But this sort of majolica is sharply distinguished both in colors and in ornamentation from majolica with underglaze painting, from incised and impressed terracotta, and from ganch.

This is apparently to be explained by the different origins and by the different routes through which these groups of architectural decor of the Golden Horde have come together. As regards the mosaics, scholars have brought to light close parallels to the flower and plant patterns of the Golden Horde mosaics in Iran, in particular in Khorosan, and in eastern Transcaucasia. Golden Horde mosaics have resemblances to Khorezm mosaics in the palette of colors, in the use of red (being distinguished in this from the other mosaics of Central Asia), and in the simple geometric ornaments. But the plant ornament system of the Golden Horde mosaics differs substantially from the ornament of the Khorezm ones. Analogies for the flower and plant patterns of the Golden Horde mosaics are known only in later buildings of XVth century Central Asia. Students suppose that the impulse for the development of the mosaics of the Golden Horde culture was received from Iran via Transcaucasia (Noskova, 1976, p. 25-28).

Evidently Volga Golden Horde mosaics developed independently, parallel to those of Khorezm, but through other courses. After Timur's

conquest of these lands and of Khorezm in the 1380's and 1390's mosaic workers were removed to the cities of the Timurids.

Both in Central Asia and in the Golden Horde, majolica with underglaze painting developed under the effects of the cultural influence of Iran, which passed into the Golden Horde through Azerbaijan (Kverfeld, 1947, p. 89). The shape of the cross-like, square, and star-like tiles and of inserts in the form of irregular diamonds and figure-eights and the like, which were used to make up large panels, are ones common to these majolicas both in Central Asia and in the Golden Horde, but these shapes go back to Iranian tiles of the pre-Mongol period. They are also encountered in Asia Minor (at Konya) in the XIIIth century.

The actual principle of the display, under which each element retained its function as in independent artistic element inherent in its ornamental or representational composition, likewise goes back to Iranian luster tile displays of the XIIth and XIIIth centuries.

But Golden Horde majolica with overglaze painting is distinguished from majolicas of this class both in Iran and in Central Asia. Nowhere is there such an abundance of gold leaf, and complicated work at that, as in the Volga cities of the XIVth century. It is considered possible to see in this an influence of Byzantium, and it is compared with gilding on ganch in Armenia (Noskova, 1976, p. 26).

The Golden Horde majolicas with overglaze painting and the figure of a man, and the broad red-brown-green borders on tiles of the same sort, are comparable with nothing at all. In Central Asia there are few turquoise and white majolicas with overglaze painting, or almost none; these last forms of majolicas were a transference into architectural decor of principles for the ornamentation of kashi vessels. This was an independent creation of the Golden Horde masters. Accordingly the special similarity in ornamental motifs and elements between the majolicas with overglaze painting and the analogous kashi vessels is no random matter.

As for majolicas with underglaze painting, incised terracottas, and incised and impressed ganch, there is no doubt that the impulse for the evolution of these sorts of decor was received from Central Asia. It is just in this way that these sorts of decor undergo development as early as the first half of the XIVth century - majolica in Khorezm, incised terracotta with glaze at Samarkand and Bukhara and again at Khorezm. The greatest amount of common elements of ornament lies in the architectural ganch and terracotta - herikhs and arabesques, "madokhilias", borders in the form of running spirals, epigraphic plaitings with leaflets at the ends, cross-shaped medallions and medallions in the form of four-petalled rosettes with complicated intertwinings, plant shoots; indeed even the design of leaves, the strokes traversing the leaves, the lotuses and chrysanthemums, the motif of the wild beast hunt, the motif of the "lucky knot", epigraphy in combination with plant shoots; the very selection of the hues (white letters, ultramarine background) in the epigraphic ornament, as well as the overall palette - all these things find close parallels in the architecture of Central Asia. There are also analogies for the rare

turquoise tile-inserts with black painting (see Rempel, 1961, Illustration 127, 131, fig. 12; Illustration 122, 128, fig. 2; Illustration 129, fig. 1; Illustration 123; Illustration 126, fig. 2, 3, 4; Illustration 124, fig. 2; Illustration 138, fig. 1). But there are differences too. For example, a Golden Horde incised panel shows that the motif of the "lucky knot" was used in a way in which it was not used in Central Asiatic architectural decor - a row of complex knots intertwined of two strips is placed upon a free background. Also uncharacteristic for Central Asiatic architectural decor is the utilization of the border motif of a running spiral to cover large areas of ornament. The motif of the "royal lily" is original to Golden Horde decor.

Architectural incised ganch was a direct borrowing from Central Asia. But in this field, too, one can note features of independent ornamental creativity: for example, the use of small flattened arrow-like arches for the decoration of "stalactites" and the like.

False mosaics also find analogies in Central Asiatic architectural decor (Rempel, 1961, Illustration 125, fig. 2, p. 268). Tiles with the design scraped into the glaze find direct analogies in memorials of the XIVth century in Iran (Sultaniya, Tabriz) and in Azerbaijan.

CHAPTER VII

CERAMIC PRODUCTION

The Shaping of Manufactures

The shaping of red-clay vessels was always performed on the potter's wheel.

Among the wasters from a potter's shop for the production of red-clay unglazed ceramic ware at the Vodyanskoye site (dig I of 1973) there was found a fragment of a potter's wheel (Illustration 85, fig. 9). It consisted of a circular ceramic object which had been well fired. Its upper surface, upon which the vessel was shaped, was flat and rough. The diameter of the wheel at the upper side was 19.5 cm. On the under side there was at the center a conical depression in which the tapering end of the axle upon which the wheel rotated was set. The outer edges have an overhang covered with engobe bearing a wavy ornament, and a groove. One may suppose that there was set in this groove a thong or cord by means of which the wheel was put into motion by an assistant (Saiko, 1971, p. 45-56, Illustration 18).

In one of the pottery kilns at the Azak site there was found an iron knife of special form with a wooden handle having a bronze band or bolster; it was perhaps for the potter's use in shaping vessels (Galkin, 1975, p. 259, Illustration 6). Bronze halved-elliptical instruments were found on the terrain of the potter's shop at the Selitryonnoye site (dig II - Illustration 85, fig. 3). These were also perhaps used to even off the surface of a vessel while it was being shaped on the potter's wheel.

In the same shop there were found more or less triangular ceramic bits, possibly used for working the surfaces of vessels as the potter's wheel rotated (Illustration 85, fig. 4).

Ceramic burnishers made from broken handles of vessels and specially shaped were found. The burnishers had two surfaces with traces of wear by friction and were used for burnishing and smoothing the surfaces of vessels.

Unglazed red-clay vessels were ready for firing after shaping on the potter's wheel and the application of ornament. Red-clay glazed vessels were covered with engobe and were ornamented, then fired. Glass-forming glazes and mixtures for producing transparency or opacity, and also for producing one color or another, were first crushed and pulverized in mills, mixed, and smelted. A smelted residue of these components of a glaze (frit) in a vessel, or preserving the form of a vessel, was found at the potter's shop on the Selitryonnoye site. These coalescences were crushed in their turn, pulverized, and

mixed with water to the consistency of a thick liquid. The vessel was covered with this thick frit and was again fired. Upon the second firing the frit melted and covered the vessel with glaze. Semi-manufactures have been preserved that show the stages of this process - red-clay vessels of raw unfired clay, vessels fired but without engobe, fired ones, and the ones covered with engobe, painted upon engobe, and with a stratum of still unmelted frit; fired with engobe only; fired and with incised design on the engobe. Compounds of copper were among the basic colorants mixed into the frit. It was perhaps in this connection that there were found, at the site of a shop for the production of kashi slabs for mosaic work at Tsarevo, a great many clippings from copper sheets.

Kashi vessels were formed in alabaster piece-moulds (Bulatov, 1972). The dispute as to how kashi vessels were formed was finally resolved by the finding of a large number of alabaster piece-mould components in the potter's shop at the Selitryonnoye site. The mould also produced the relief on the kashi sherd. Then the dried, ornamented vessel was covered with frit and was fired. No fired kashi vessels without glaze - that is to say, semi-manufactures - were found among the waste from the shops. This speaks to the effect that kashi vessels with transparent glaze were fired one single time in the Golden Horde, even though medieval specialist potters in Iran recommended firing twice.

Kashi vessels with overglaze painting were fired twice. The first time was to fire the kashi and melt the frit. After this the ornament was applied in enamel pigments, and the vessel was fired a second time.

The composition of kashi consisted mostly of quartz sand (85-90%). Clay and lime were added (0.5-3%); perhaps they entered as an impurity in the sand. The addition of clayey earths lowers the temperature necessary for firing Voskresenski, 1970; Grazhdankina and Rtveladze, 1971, p. 131; Shlyakhova, 1980, p. 76). In the potter's shop at the Selitryonnoye site kashi sometimes contains only 60-70% of sand. The sand used was not only siliceous white sand but also gray and red river sand.

Kashi, particularly that with a high content of siliceous sand, was an expensive material. Cases of re-use of kashi have been established. In the shops of potters producing kashi ware there have been found accumulations of fragments from kashi mosaic tablets - apparently waste brought from some construction site. At the same place there have been found heaps of tablet material broken fine, of ground kashi, and of kashi flour; also millstones with traces showing they have been used to grind kashi (Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, p. 109-114). Once mixed with a binding substance this powder went into production again. Wasters from the manufacture of kashi vessels were never re-used, because when they were ground up into flour too much glaze got into the flour.

Tandyrs, too, were made in alabaster piece-moulds. Small tiles were likewise made in alabaster moulds, mainly those having overglaze painting, and in particular cross-shaped tiles. Large tiles, bricks,

mosaic tablets, and tablets for incised terracottas were apparently made in wooden forms. Tablets of incised terracottas were ornamented before firing, were then fired, and finally were covered with frit and fired once more. In the potter's shop at the Selitryonnoye site there was brought to light a quantity of incised terracotta tablets intended to be covered with glaze, but for some reason left bare of it.

Incised terracotta architectural details were sometimes not entirely covered with glaze, only the most important and salient parts of the ornament being glazed. When this occurred the recessed parts of the incised ornament were covered with plaster of Paris or alabaster so that the glaze should not run into these places, and after the firing this protection was removed. At the potter's shop (dig II) on the Selitryonnoye site a fragment of such an incised terracotta tile was found having partial coverage with glaze and retaining a ganch filler in the recessed parts left unglazed.

In the collection from the A. V. Tereshchenko excavations at the Tsarevo site there are dowelled stone component parts, and the same sort of ceramic moulds, for pressing out little clay figures of toy birds (Papa-Afanasopulo, 1925, Illustration 3).

Spherocones were pressed out in clay or alabaster moulds. In order to get the necessary cavities in the wet material, use was made of an already finished spherocone or of a metal positive form. Half of such a hollow bronze positive figure for an ornamented spherocone was found at the Tsarevo site (Sarai 59). After the spherocone had been formed supplementary ornamentation was added to it.

Impressed gray-clay ceramic ware was made in parts by pressing these out in ceramic forms (Illustration 58, fig. 1) which are called kalypa in Central Asia (Fedorow-Dawydow, 1972, Illustration 79, 80; Fyodorov-Davydov, 1976, Illustration 122). On the inside surfaces of vessels one can see the impression of the clay into the form from within. Hemispherical halves of a vessel were fitted together and patchd with wet clay or slip. An opening was cut in the upper part and there was attached to it a neck ready-shaped on the potter's wheel. Then the handle and the bottom rest were attached; the rest had also ordinarily been shaped on the potter's wheel.

Impressed ganch architectural decoration was applied to a stratum of alabaster with the help of special ganch slabs bearing intaglio relief; sometimes such impressing-slabs had such relief on both sides. The intaglio relief on these matrix slabs was applied in its turn by exerting pressure, with subsequent touching-up of the relief and sharpening of details by the carver (see Sarai 1580-1582; Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, Illustration VIII, fig. 18).

In the Tereshchenko excavations at the Tsarevo site there was found a stone mould in the form of a quarter of a sphere with ornament on the inner surface - apparently for casting or impressing architectural details made of ganch.

The cutting out of elements for mosaic work and the fitting together of display panels from these was carried out at the

construction site. Standard units of mosaic were evidently sawed out of two slabs at a time, glazed surfaces inward, with guidance from a stencil. The saw blade ran twice over the contours of small pieces to be sawed, following the lines indicated but inclined the first time toward one side, the second time toward the other. This may be deduced from the fact that in the enormous heaps of waste from mosaic production there have not once been found units with reversed inclination of the edge or with sawing perpendicular to the surface. As a result units were secured that were mirror-images of each other. Mosaics were made up through the "reversed display" technique according to which a large expanse of mosaic was built up out of units that were laid glaze-downward, after which alabaster, lime, or plaster of Paris was poured on top. The display slab secured was turned over and attached to the wall (Dudin, 1925; Tomayev, 1951).

Firing, Classes of Kilns

Heat technology and temperature ranges played an enormous part in the various types of firings. For the firing of architectural decor in kashi, temperatures of 950 to 1200 degrees centigrade were required (Grazhdankina and Rtveladze, 1971, p. 121). The temperature ranges necessary for each sort of ceramic production were secured through the way the kiln was constructed.

Seven sorts of kiln are known from the Golden Horde sites:

I. A round or oval double-decker kiln. The lower deck consisted of a furnace chamber round or oval in plan and narrowing upward. A furnace opening led into the chamber. If the kiln was set upon an earthen surface, there was frequently a pit before the furnace opening for ashes. In that event the walls of the furnace were built of one or several thicknesses of adobe bricks, halved or entire. If the kiln was dug into the ground, a large pit for the master operative was made before the furnace opening. The furnace was covered over with an almost flat vault of adobe or of fragments of adobe bricks, with an opening for the release of smoke and hot air. The walls of the kiln above this vaulting formed the firing chamber, which had in its upper part an opening through which the operative introduced the vessels to be fired and took them out after firing. While firing was under way this opening was partially covered over, and by this means the operative regulated the temperature range within the kiln. Both the furnace and the heating chamber were daubed with clay, ordinarily well calcined. This sort of kiln was intended for the firing of unglazed red-clay ceramic ware.

A kiln at the Vodyanskoye site (dig I, 1973) had a furnace diameter of 135 cm. and a furnace-opening breadth of 60 cm., and it was dug deep into the ground. Before the furnace opening a recess inclining toward the kiln had been made. In the main it was two-handled-and single-handled pitchers of various forms that were fired in the kiln. There was a complete absence of any production of glazed containers.

A number of kilns of type No.1 were discovered in the potter's shop at the Selitryonnoye site (dig II) - Nos. 5, 9, 11, 13, 15, 17,

18, 21, 22, 24, 25, 30 (Illustration 1). The dimensions of the furnaces run from 60 cm. to 200 cm.

Double-decker kilns of type I were found at Uvek and Mokhsha, where they were used to fire tiles (Ballod, 1923 - 1, p. 79; Alikhova, 1969, p. 79), and at Azov (Galkin, 1975), likewise at the Khan-Tyube site on the lower Volga, where they were used only for the production of unglazed ware (Shnaidshtain, 1979).

II. A round or oval double-decker kiln with a support column of brick in the middle of the furnace chamber, for its roof to rest upon. Excavated at Khan-Tyube (Arkheologicheskiye Otkrytiya for 1969, p. 175; Shnaidshtain, 1979, Illustration 7). These were also intended for the firing of unglazed red-clay ware.

III. Double-decker sunken kiln, analogous to the kiln of type I, but having a narrow sunken channel before the furnace opening with its bottom at the level of the bottom of the furnace chamber, covered and lined with bricks, and emerging at the ground surface as a small opening. Such kilns were intended for unglazed ware. Found at Khan-Tyube (Shnaidshtain, 1979, Illustration 7).

IV. Double-decker rectangular kiln. Its walls are made of burned bricks. The furnace opening was made at one of the ends. On its inward side the furnace had pilasters upon which the arches rested. Upon these arches lay the adobe floor of the firing chamber which was set out on the upper deck. This floor had passages for hot air and smoke. The firing chamber was covered by a chest-like vault. In the upper part of the firing chamber there was an opening to let smoke out.

A potter's shop with two kilns of this sort was brought to light at the Tsarevo site. Their dimensions were 115 x 210 cm. and 120 x 220 cm. Both were dug in and the first had two support arches, the second three, upon which the foundation of the firing chamber rested. The breadth of the furnace opening was about 25 cm. Before this opening there were ante-furnace pits. Glazed red-clay vessels and impressed gray-clay ware, sometimes with glaze, were fired here (Fyodorov-Davydov, Vainer, and Guseva, 1974, p. 110-111, Illustration 11-12; Guseva, 1974, p. 134-135; Illustration 7-8).

In the potter's shop at the Selitryonnoye site three kilns of this sort were found (kilns No. 2, 3, 27). Their dimensions were 130 x 160 cm., 150 x 180 cm., and 148 x 90 cm. The kilns were sunk into the ground (Illustration 2, fig. II).

Kilns of a similar sort were found among the Golden Horde memorials of Moldavia, where unglazed vessels, too, were fired in them (Polevoi, 1969, p. 78-87); at Belgorod-Dnestrovsk (Kravchenko, 1979, Illustration 8); in Volga Bolgaria; at Krym; and at medieval memorials of Central Asia, where they were already known in antiquity (Illustration 7, fig. VI).

V. A round double-decker kiln with interior pilasters in the furnace upon which the vaulted base of the firing chamber rested. In the walls of the firing chamber long clay rods or "spindles" were set,

and the articles to be fired were set out upon these. A kiln of this sort was found at Uvek (Ballod, 1923 - 1, p. 77-78). The furnace accessories at this kiln consisted of spindles, "triangles", and "disks" (see below for definitions). The diameter of the kiln was 1.1 meters. The kiln was a sunken one and was lined with a floor, square in plan, of adobe bricks. The furnace opening with its arched brick covering led into the furnace chamber from a large ante-furnace pit.

VI. Round kilns with an interior furnace chamber (Illustration 7, fig. V). These ground-level kilns were built up of adobe bricks and were lined with these in several breadths. The furnace area was placed within the firing chamber and consisted of a circular structure covered with a cupola. The opening to this furnace led to the outside as an elongated passage. In the furnace vault were passages for smoke and hot air. The firing chamber had cylindrical walls. Spindles were inserted in the inward sides of these for the laying out of the articles to be fired. The upper part of the firing chamber was evidently also covered with a cupola having an opening for loading and unloading the kiln, for the release of smoke, and for control of the temperature range within the kiln. The floor of the furnace chamber might coincide in level with the floor of the firing chamber, or might be lower than this. There was usually an ante-furnace pit before the mouth of the furnace opening. Kiln No. 14 in the potter's shop at the Selitryonnoye site (Illustration 2, fig. I) was well preserved. Its ante-furnace rectangular pit, of 260 x 240 cm., was dug 130 cm. into the ground. The furnace opening was 26 cm. wide and 18 cm. high. It had an ash pit 10 cm. deep. The furnace (with dimensions 0.7 x 1.1 meter) was dug 130 cm. into the ground and had vertical walls composed of burned brick. The foundation of the firing chamber was also sunk into the ground but by 60 cm. The walls of the furnace rose above this foundation of the firing chamber, and the walls of the firing chamber formed an oval concentric with the walls of the furnace chamber. They consisted of adobe bricks and were faced with a heat-insulating lining in the cross-sectional shape of a right polygon. On the inward side of the wall of the firing chamber there was a well-calcined clay daubing. During a rebuilding of the kiln the firing chamber and the furnace were filled in somewhat, and new foundations for them and a new furnace opening, again with an ash pit and an arched roofing, were constructed at a higher level. The bottom of the ante-furnace pit was filled in, by the time of the rebuilding, with a stratum of wastes from the kiln (Bulatov, 1976 - 2, p. 249-250, Illustration 1, fig. 2).

Other kilns of the same sort were also found in the same shop: Kiln No. 1 (Illustration 7, fig. V). A furnace chamber oval in plan was sunk by 45 cm. as compared with the firing chamber. The dimensions of the furnace chamber were 50 x 80 cm. The dimensions of the firing chamber were 80 x 100 cm. (Bulatov, 1976 - 2, p. 247, 248). Also kiln No. 8: its furnace chamber, oval in plan, had dimensions of 70 x 130 cm. The dimensions of the firing chamber were 140 x 190 cm. The foundation of the furnace chamber was sunk into the ground by 80 cm. The floor of the firing chamber coincides with the floor of the furnace. The furnace opening exits into an ante-furnace pit, one into which kiln No.11, of type I, also exited (Bulatov, 1976 - 2, p. 248).

To judge by the accumulation of wasters around them and in the

ante-furnace pits, these kilns were intended for the firing of glazed kashi ware. At the Tsarevo site a shop was discovered that had one kiln of this sort. Glazed kashi tablets for mosaic work and (as a side-line of the master operative) small figures of animals in red-clay were fired in it (Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, p. 110-111).

VII. Round kilns with open furnace. In these kilns firing was done by means of an open flame. The furnace consisted of a pit broadening downward and lined with brick; this was connected to an ante-furnace pit by means of the furnace opening. The furnace chamber had a round opening at the top, into the floor of the firing chamber. The firing chamber had cylindrical walls with spindles on which the products intended for firing were hung. In the walls of the firing chamber there were vertical channels to conduct hot air. The firing chamber was equipped with a special hatch-cover over the furnace opening, for charging the chamber and emptying it; it was closed during firing.

Two kilns of this sort were found at the ceramic workshop on the Selitryonnoye site (Illustration 7, fig. I-IV).

Kiln No. 20 The ante-furnace chamber was oval in plan, 140 x 184 cm. in dimensions. The depth of the pit was 135 cm. Before the furnace opening there was a semicircular depression of 30 x 60 cm.

The end of the kiln toward the ante-furnace pit had an arched furnace opening and two pilasters to the sides thereof, which served as abutments for the adobe facing of the kiln. Above the arching apex of the furnace opening there was a charging aperture for the firing chamber, also with an arching apex. The breadth of the furnace opening was 46 cm., the height 80 cm.

The walls of the kiln were built up of burned bricks and were let down into a specially dug cylindrical pit the bottom of which was at a depth of 150 cm. The walls formed an almost perfect circle with an interior diameter of about 200 cm. At the bottom of the pit in which the walls of the kiln stand there was a facing of burned bricks built so that between it and the vertical cylindrical walls of the kiln there was a gap 5-8 cm. in breadth. In the center of this lining, which is to say in the center of the kiln, a conical hollow 100 cm. in diameter at the bottom and 70 cm. at the top was left. This constituted the furnace chamber. It was connected with the furnace opening by a passage left in the brick lining throughout its entire height. The breadth of the passage was 60-80 cm., its length 90 cm. This passage was covered over with a chest-like vault. In the lining there were left four crevice-like vertical slots which led from the furnace into the space between the brick lining and the cylindrical walls of the kiln. They served to control heat and to lead it out of the furnace chamber via special openings into the peripheral parts of the firing chamber. The entire surface of the furnace chamber was covered with a well-calcined daubed coating. The furnace chamber had at its top a round opening 85 cm. in diameter which brought it into communication with the firing chamber.

The floor of the firing chamber constitutes a circle 2 m. in diameter. Its level is 130 cm. higher than the bottom of the furnace chamber. The floor and the inward surfaces of the walls are covered with a daub up to 20 cm. thick. It is thoroughly calcined. The firing chamber has a cylindrical wall made up of halved burned bricks. The thickness of this annular lining together with the daubed surfacing is about 17 cm. In this annular wall of the firing chamber there were positioned four levels of openings for spindles upon which the articles to be fired were hung.

In the lining of the kiln, which consisted of halved burned bricks and of an adobe surfacing, there were four vertical channels of rectangular cross-section, their dimensions being 22 x 20 cm. In a downward direction the channels reached the surface of the floor of the firing chamber and they entered into it through narrow openings. The vertical channels ran through the entire surviving height of the kiln's walls.

Kiln No. 23 was built later than kiln No. 20 right beside it. The dimensions of its ante-furnace chamber, semi-circular in plan, were 80 x 160 cm., and the depth was 120 cm. A small oval pit had been made before the furnace opening.

The furnace opening had at its lower side an ash-pit 12 cm. deep and 16 cm. wide. The actual opening had a pointed arch. The breadth of the furnace opening was 40 cm. and its height was 75 cm. Above the arch of the furnace opening there lay a spindle and several rows of burned bricks from the lining of the walls of the kiln. Above this was the almost completely destroyed charging port for the firing chamber.

The arch-shaped furnace opening from the ante-furnace pit led into a passage connecting with the furnace chamber. The length of this passage was 80 cm., and its breadth was 40 cm. This passage was covered throughout its entire length by a chest-like vault of burned bricks. The passage ran into the cone-like hollow of the furnace chamber proper. The chamber had at its bottom a diameter of 90 cm. In its upper part the chamber had a round opening which led into the firing chamber. The diameter of this opening was 65 cm. The walls of the furnace chamber were built of burned bricks in fourteen tiers and in a single thickness. On the inside it was coated with thoroughly burned clay, which had fused together during the firing processes. The brick lining of the furnace chamber was sunk 137 cm. into the earth.

In contradistinction to Kiln No. 20, the walls of the firing chamber stood not in the pit dug for the furnace chamber but upon the ground. The floor of the firing chamber was sunk 20 cm.

The firing chamber, round in plan, had a diameter of 175 cm. The floor was paved with fragments of ceramic "disks", a part of the oven accessories. On these "disks" a layer of clayey coating 5-10 mm. thick had been laid. At the round opening connecting the furnace chamber with the firing chamber the coating thickness to form a rolled rim.

The firing chamber was bordered by a circular lining of halved burned bricks in a single breadth 15-18 cm. in thickness. The inward

surface of the firing chamber was covered with a layer of clayey daub which had been thoroughly burned and fused.

In the wall of the firing chamber, on the inward side and at a height of 35-40 cm. from the floor, there were openings for spindles. The distances between these openings were approximately 20-22 cm. In the lining of the walls of the firing chamber were four vertical channels, rectangular in section and 20 x 20 cm. in size. Sections of ceramic piping with fitted ends had been installed in the channels. At their lower ends these chambers fail by 10-12 cm. to reach the floor of the firing chamber, exiting outside the firing chamber through openings set with tiny fragments of bricks. The purpose of these channels is the same as in kiln No. 20.

The outer facing of both kilns was made up of adobe bricks.

Both kilns described worked on the same principle - the vertically upward passage of fire and heat from the furnace chamber into the firing chamber, and the distribution of heat within the firing chamber through the aid of vertical channels in the walls of that chamber. In kiln No. 23 (the later one) there are no side vents connecting with the periphery of the firing chamber. In contradistinction to the furnace chamber of kiln No. 20, in which there were almost no ceramic finds, the furnace chamber of kiln No. 23 contained a large quantity of objects which were oven accessories, fragments of reject kashi light-blue glazed bricks, and reject kashi household pottery. All in all, kiln No. 23 was coarser, more slipshod, and simpler than kiln No. 20.

To judge by their having common facing on the south end in the form of a straight wall of adobe bricks and wooden beams, at some time or other the two kilns were working together.

Kilns of this sort were used to fire glazed kashi ware and glazed kashi tiles and bricks.

Ovens for firing bricks are familiar along the Golden Horde Volga. These are large rectangular chambers of brick with a furnace opening in one face and with pilasters set along the long walls so as to leave a broad passage for flame and smoke down the main axis of the chamber. Arches rested upon the projecting pilasters, leaving gaps between them. The production to be fired was laid out upon the arches. Such kilns were brought to light at the Selitryonnoye site and near the village of Berezhnovka on the left bank of the Volga in the Volgograd District (Sinitsyn, 1960, p. 107-110). The dimensions of the kiln at the Selitryonnoye site were 5.9 x 4 m. and of that at Berezhnovka 5 x 6 m. The same sort of kilns for firing bricks were widespread in the Middle Ages. Analogous kilns were discovered at Saraichik (Patsevich, 1957), at the Golden Horde sites in Moldavia (Illustration 7, fig. VI; Polevoi, 1969, p. 88), at the Krasny Khutor settlement in the Voronezh District (Levashova, 1960, p. 177-178).

Oven Accessories

To fire ceramic ware it was very important that the pieces be

properly positioned in the firing chamber. To this end various pieces of oven equipment were prepared. Accessories are divided into three large groups:

Class I. Specially Prepared and Fired Equipment

The "sepaya" - a tripod These were used as spacers between bowls. They were not used in firing unglazed ware. Their principal application was in the firing of glazed red-clay ware. They were used in the firing of glazed kashi ware, but rarely. Sepayas have dimensions of 3-4 cm. to 26 cm. Most sepayas are of 10-13 cm. Sepayas were hand-moulded in raw clay and were modelled on a wooden board. In the shop at the Selitryonnoye site a sepaya was found that bore impressions of a silver Golden Horde coin (Fedorow-Dawydow, 1972, Illustration 82), also a sepaya with obscure symbols drawn upon it (Illustration 61, fig. 2; Bulatov, 1976 - 2, Illustration 3, fig. 7).

Bowls were arranged in a pile, bottoms up, with sepayas between them. The lowest sepaya was stood on a "sari" or on a "trumpet", and this made it possible to position the lowest bowl so that its edges did not touch the floor of the firing chamber.

One sometimes encounters sepayas that have ridges instead of projections on their legs (Illustration 85, fig. 7). A sort of little horned caltrop is known that has the shape of a short ceramic post with three projections at the top and three others at the bottom (Illustration 61, fig. 1). This is probably a stand for the lowest sepaya of all the pile of vessels to be fired.

"Sari" These were truncated-conical utensils with openings in the bottom and sidewise ones in the wall. These articles were set upside down on the vents in the floor of the firing chamber, and they served to send the flow of hot air in the required direction. They were made on the potter's wheel (Illustration 86, fig. 3).

"Spindles" These were set in the walls of the firing chamber. Other oven accessories were fastened to them, completing a structure for spacing out the articles and tiles to be fired. They were used in the firing of kashi articles and glazed tablets for mosaics (Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, p. 110, Illustration VIII, fig. 4). Spindles were made by twisting clay around a rod. Almost all spindles have a channel through them. Smaller solid spindles without a channel (Illustration 86, fig. 2) are found very rarely. The diameter of a spindle with channels is 5 cm., and the average length of whole spindles is 40-50 cm. Spindles often bear traces of having been cut shorter and of having been facetted with a knife before firing, on the end that was thrust into the wall of the firing chamber; on the opposite end, more rarely so.

"Disks" These were ceramic plaques, usually circular, more rarely irregular or of a shape close to trapezoidal or rectangular. The thickness of a disk was 1.2 cm. They were formed by flattening out against a plank. Disks were laid upon spindles to form a sort of shelves. They were used in firing kashi ceramic articles.

"Trumpets" were cylindrical objects. At either end their throats had an everted rim. Trumpets were placed on disks and further disks were then placed upon them, so that a sort of étagère or stack of shelves was formed. On each shelf of this étagère a glazed kashi bowl was placed. In this way there was a minimum of contact between oven accessories and the glaze stratum of the bowl. The same sort of structure was used in the kiln for the firing of mosaic tablets at the Tsarevo site.

"Trumpets" with a rim pinched together (Illustration 86, 1) were trumpets that had been adapted for the firing of glazed kashi bricks. One of their rims was flattened into the semblance of a shoulder-blade, and this entered a groove in the under side of the glazed kashi brick in such a way that the brick would lie with the glazed surface on an incline.

"Triangles" have the shape of an equilateral triangle with a side of 15-17 cm. One side is flat, 4 cm. broad, and two sides have rounded edges. The apex of the angle opposite the flat edge is also rounded. The thickness of the triangle diminishes toward that apex (Ballod, 1923 - 1, p. 77-78). Triangles were used in the firing of glazed kashi bricks. Two triangles standing on their flat sides could support one brick, which rested on the apexes of these triangles that entered a groove in its bottom. In this way the brick was fired with its glazed surface set horizontal and facing upward.

"Cones" The height of these ceramic cones is 3 - 4 cm. They served as spacers between kashi tablets for mosaics. They were comparatively rarely used. They were found in great quantity, and as the sole sort of spacer between kashi tablets, in a kiln for the firing of kashi tablets at the Tsarevo site (Fyodorov-Davydov, Vainer, Mukhamadiyev, 1970, p. 111 ff.; Fyodorov-Davydov, 1964 - 2, p. 254, Illustration 3). In the use of cones for spacing tablets the latter should lie with the glazed surface to one side. But the great number of wasters and stuck-together kashi tablets found at the shop on the Selitryonnoye site shows that they were set up in pairs with the glazed surfaces toward each other. The cones were little used here, and in their stead small rods of raw clay were used for setting up tablets.

Class II. "Lumps", "rods", and "cakes" of raw clay, which became fired during the overall firing process for ceramic articles.

Before charging the kiln the master operative prepares "cakes", irregular disk-like shapes, "rods", close to cylindrical form, and "lumps". The cakes were 7.8 cm. thick and 15-18 cm. in diameter, and the rods were about 10 cm. long and 2 to 3 cm. in cross-section.

These sorts of raw clay accessories served to fasten in place a previously fired oven accessory, to prop up vessels and other objects to be fired, and to endow with firmness the complex structure of cones, spindles, and "disks" set up inside the kiln. From the impressions on these "cakes" and "rods" it is possible to determine their place in these structures.

A great many "rods" bear impressions from the end faces of kashi tablets for mosaics (Illustration 85, fig. 6). The "rods" on the side opposite such impressions sometimes show impressions of a flat surface or a spindle. This is evidence that such "rods" were positioned beneath tablets from below, while the actual tablets stood on edge during firing. But a great many tablets show no such traces. We take it that a considerable part of the tablets for mosaics were fired in horizontal position.

"Rods" always have two impressions each from the edges of kashi tablets, which is evidence that these tablets were fastened together by means of the "rods". Ordinarily tablets were set with the glazed sides toward each other and at a distance of 3-4 cm. during firing.

There are "cakes" bearing impressions of the bottom rests of kashi bowls (Illustration 85, fig. 10). Sometimes "cakes" were folded in half. Kashi bowls were stood upon the "cake". In that event one should evidently not use a sepaya, in order to avoid spoiling the glazed surface through impressions of the feet of the sepaya.

Among the oven accessories of the pottery shop at the Selitryonnoye site there was found a fired "cake" with what was evidently a trial impression of a stamp representing a lotus flower (Illustration 53, fig. 1).

One finds a great quantity of "rods" without impressions of fired articles; they are coarsely modelled with the fingers. They were intended to support glazed kashi bowls during firing. To judge by observation of wasters these bowls might collapse and their walls might break off through their own weight during firing (Illustration 86, fig. 6). Sometimes the lower end of these "rods" was rested in a nest made of a small lump of clay (Illustration 85, fig. 1, 2).

"Rods" are found that have been bent into a ring or the half of a ring and that bear impressions from the rim of a "trumpet". (Illustration 86, fig. 7). The "trumpet" was stood not simply on a "disk" but on such a ring-shaped "rod". This made it possible for air to pass through the tube of the "trumpet".

"Lumps" have been found that bear on one side the impression of a spindle (Illustration 85, fig. 8) and on the other, impressions from the flat surface of a "disk" - they were spacers between the spindle and the disk.

We are acquainted with "rods" that have been bent in an acute angle. Within the angle they bear the impression of the apex of a "triangle", and on the outside the impressions of two flat surfaces coming together at the point of the bend. These were intended to strengthen the apexes of triangles as they were fired. Evidently the triangles were set apex to apex in such fashion that the small angles described could be set between them. There are also "rods" and "lumps" with impressions from the bases, apexes, and sides of these triangles. They also served to strengthen the triangles when they were being set up for firing.

Class III. Trial pieces

Sometimes one finds rectangular scraps, cut out of the edge of a kashi bowl, and standing on a clay support (Illustration 86, fig. 5). These were used as trial pieces to check the course of the firing and the melting of the glaze, to regulate and control the temperature range. They were put in various parts of the kiln and were brought out by the operative through an opening, by means of a hook, in order to make certain of the course of the firing. A kashi bowl would be cut up into a number of small rectangles before firing; openings would be made in these, and then they would be placed in the kiln. The glaze would melt and would cover the edges of the scrap and of the circular opening cut through it. The small lump of raw clay serving as a stand for this scrap would be fired. There is a "trial piece" in the form of a specially made kashi plaque, also with an opening. The operative has placed upon this, carelessly and several times over upon each side, what is probably his name: "Assan", in cobalt pigment.

One also finds small rectangular blocks of kashi with an opening; these are covered on one side with glaze (Illustration 86, fig. 4). They were likewise intended to check the course of the firing, but not the firing of bowls - rather, that of kashi architectural decor, for which there was evidently need of trial pieces that had a certain mass and thickness of the kashi paste, different from that in the ceramic utensil example.

The aggregate of oven accessories found in the shop at the Selitryonnoye site (dig II) was: Accessories of Class I: sepayas, 13550; spindles, 5158; disks, 9790; sari, 829; cones, 458; trumpets, 906; trumpets with pinched rims, 88; triangles, 25. Accessories of Class II, 16123. Trial pieces of Class III, 64.

Among the refuse of ceramic production in the shop at the Selitryonnoye site there was found a shell from a large fresh-water bivalve mollusc bearing traces of a pigment which had been ground up in it. Another such find was made at the Tsarevo site during the Tereshchenko excavations.

Ceramic Workshops and the Ways of Organizing the Labor of Craftsmen

The archeological materials reflect various ways of organizing craft labor in the Golden Horde cities of the Volga banks.

1. Individual shops with strict specialization, usually having a single kiln. Such a shop, for the production of tablets for mosaics and having a kiln of form No. VI, was brought to light at the Tsarevo site. It was in operation during the second half of the XIVth century. The master operative produced kashi tablets for mosaics, and in addition he modelled and fired small clay figures of animals. Units for mosaic work were cut to shape and they were assembled at another point, evidently at the construction site. In the last period of its existence the shop ran seriously downhill. The operative was making not kashi tablets and bricks, but red-clay bricks of poor quality (Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, p. 110-112). This shop was located in a plebeian ward of the city, far from the

aristocratic villas. To judge by finds on the terrain, there were other such shops round about.

Another individual shop with a strict specialization of labor was brought to light on the Vodyanskoye site. This shop was also in operation during the second half of the XIVth century. Here the operative worked with a single kiln of Class I and produced only unglazed ceramic ware, primarily pitchers and basins.

2. Estate shops A shop of this sort with two kilns of Class IV was brought to light within the third villa in the "Three Villas" area in the eastern suburb of the Tsarevo site. Its specialization was of a broader nature - glazed red-clay and impressed white-clay ceramic ware (Fyodorov-Davydov, Vainer, and Guseva, 1974, p. 111-112; Guseva, 1974). At the same villa there was also in operation a shop for the production of jewelry ornaments, including gold ones. This was not a territorial coming-together of craftsmen in a single specialty field, but quite the contrary - a conjunction of two craftsmen in different trades on the terrain of a single villa. In this ward three villas were built in sequence and in each of them one craft or another was practiced. In the first villa a bone-carver master was attached to the manor house, and he made knife-handles for the most part. At the second villa another bone-carver worked, but also a goldsmith. The bone-carver made mostly bone bolsters and trimmings. After life had come to an end at the second villa a third villa sprang up alongside. Apparently the goldsmith moved hither (jewellers' tools were found here). A supposition arises to the effect that the estate operative freed himself from dependence upon his master and set up his own villa and shop. This is consonant with what P. Carpini wrote, precisely with respect to goldsmiths and jewellers, saying that they were in a position to save money and to free themselves from slavery or from semi-slave dependence (Puteshestviya, 1957, p. 58). It is possible that this goldsmith also set up pottery production at the same villa.

3. A large factory with many kilns and a broad production range. One of these was the pottery shop at the Selitryonnoye site (Illustration 1). It evolved in the following fashion: in the first period (1330-1360) a number of kilns of different classes were at work - Nos. 21, 25, and 30 of Class I, and No. 20 of Class VII. These kilns were inside an adobe brick wall, apparently surrounding a wealthy villa, and were at the edges of a large water reservoir. It is possible that during this period this was a large estate factory with a broad field of operations which put out both unglazed ceramic ware and kashi glazed ceramics for household use and for architectural work.

The second period of the operation of the shop falls to the years 1370-1390. The villa had apparently commenced to decline and its walls had been destroyed. The shop spreads, and extends beyond the boundary delineated by the wall of that villa. New kilns of Class I are built - Nos. 5, 11, 13, 15, 17, 18, 22, and 24; of Class IV - Nos. 2, 3, and 27; of Class VI - Nos. 1, 8, and 14; and of Class VII - No. 23.

The house No.1 which had existed in the neighborhood of the kilns in the second period was demolished to free space for production requirements; the service structure attached to it, a cellar, was

converted into a storage area for raw materials and finished products. Some of the old kilns of the first period continued to operate. The shop became an even larger and more variegated pottery enterprise. The shop put out all sorts of glazed and unglazed ceramic products: household utensils, and architectural decor and articles for special purposes. A single auxiliary structure was created for the whole factory: the large house No.2, of which the underground storey has been preserved. Its walls were let down into an excavated basin. The house was rectangular in plan. The walls, 50 to 90 cm. thick, were built up of burned bricks. The interior space of the house had dimensions of 6 x 5.8 m. Niches were made in the walls, evidently for the setting out of finished products, tools, and semi-manufactures. On the earthen floor of the underground storey of this house there were found a great number of fragments of broken-up opoka or gaize and of crystalline gypsum - materials of which moulds were made for the manufacture of kashi articles (Illustration 8). A brick stairway had been made in the northern wall. The floor of the house was 110 cm. below ground level.

The factory conveys the impression of a large enterprise working for the commercial market. It is sharply distinguished from the small shops discovered at the Tsarevo and Vodyanskoye sites, and also from the small individual shops in which a master operative worked with two or three assistants in other Golden Horde neighborhoods, for example in Moldavia (Polevoi, 1969, p. 59-60; Byrnya, 1974 - 1).

The requirements of the market led to a certain neglect of technological tricks of the trade, to the use of free kilns for the firing of completed objects not of the type for which these kilns had been fitted out, and to a mixing together of various customary procedures, something which the small individual and narrowly specialized craftsmen did not allow. Probably ceramic operatives of various specialties were at work in the factory on the Selitryonnoye site, but under the charge of a single directorate. Rejects after the production and firing of various types of ceramic ware would be dumped in the same pit. If this complex had been a mechanical conjunction of various shops with two or three kilns each, one would scarcely have such a picture of the way rejects were handled. Furnace openings of various types, consequently ones intended for the firing of different sorts of ceramic articles, issued into the same ante-furnace pit - another thing which is not characteristic for individual small-scale production.

One may compare the shop discovered at the Selitryonnoye site with the "karkhan", known in Iran during the Mongol period. These were large factories with specialist forced labor, mostly slaves, working in various lines of activity under a single head. Such "karkhans", a sort of slave industry, were the property of wealthy magnates, merchants, sometimes khans. In the first period a multiple-branch ceramic enterprise like the shop on the Selitryonnoye site was probably within the property lines of a large villa, but subsequently the villa collapses yet the enterprise grows still further. We do not know whose property it was during the second period.

CHAPTER VIII

GLASS MANUFACTURE

The Chemical Composition of Glasses

Glass, used in the Golden Horde cities for the production of beads and other ornaments, was of two sorts - sodium-potassium-calcium-magnesium-aluminum silica, and sodium-potassium-calcium-magnesium-aluminum-lead silica. Oxides of lead were introduced for special purposes (up to 17%). Usually tin oxides were introduced with the lead, often with special intent to make the glass non-transparent. Colorants were the same substances as those for coloring ceramic glazes - oxides of copper, cobalt, more rarely of lead, iron, and manganese. Glass for windows and vessels was made without addition of lead.

At the Selitryonnoye site a shop for the manufacture of beads, pendants, and bracelets was brought to light (dig No. III). This find decisively resolves the disputed question of whether the Golden Horde cities had glass manufacture of their own and demonstrates that glass-making shops were rather narrowly specialized. Here there were found many pieces of glass slag, pieces of fire-polished glass, rods for the ornamentation of beads with "eyes", and a great many reject beads. All of these were refuse. To judge from these, glass with low lead content was made here. An admixture of lead appears here largely in rods for incrusting beads with "eyes". Glass articles were apparently made separately. Glass was founded in one set of furnaces, and finished goods were made in another set (Busyatskaya, 1976, p. 56-60).

Sticks of light-blue and of black glass were found at the Selitryonnoye site (Illustration 89, fig. 23; Illustration 90, fig. 13). These were apparently semi-manufactures for commerce.

Beads

Beads are divided into a number of groups depending on the technique of manufacture (Busyatskaya, 1973, Busyatskaya, 1976, p. 39-43, Illustration II).

Group I Manufacture by sectioning glass tubes while heated, the ends being either fire-polished or not. The surface was often smoothed, but not always.

Division I Round in cross-section.

Type 1. Cylindrical, opaque, light-blue, green, or yellow (Illustration 88, fig. 23). Gage 1-2 mm. (the maximum dimension of beads is given here and below).

Type 2. Same. Gage 8-10 mm.

Division II Rosette-shaped in cross-section.

Type 1. Ellipsoidal in configuration, ribbed, semi-transparent and opaque, light-blue. Gage 6-15 mm.

Group II Made by winding softened glass mass around a hard rod (coiling-on).

Division I Round in cross-section.

Type 1. Spherical, transparent and opaque, colorless, black, light-blue, yellow, or green (Illustration 88, fig. 22). Gage 5-7 mm.

Type 2. Same. Gage 9-14 mm.

Type 3. Spherical with flattening where the openings emerge (oblate spheroids), transparent and opaque, black with notches at edges, dark-blue, light-blue, yellow, or green (Illustration 88, fig. 21). Gage 5-6 mm.

Type 4. Same. Gage 9-14 mm.

Type 5. Keg-shaped, opaque, black, light-blue, green, or yellow. Gage 3-4 mm.

Type 6. Same. Gage 5-10 mm.

Type 7. Cylindrical, opaque, green or yellow. Gage 2-5 mm.

Type 8. Annular, transparent and opaque, black, blue, dark-blue, yellow and white. Gage 3-4 mm. (Illustration 88, fig.19).

Type 9. Same. Gage 5-9 mm.

Type 10. Same. Gage 14-20 mm. (Illustration 88, fig. 26).

Type 11. Ellipsoidal, transparent or opaque, black, light-blue, dark-blue, yellow, or white. Gage 3-4 mm.

Type 12. Same. Gage 6-9 mm.

Type 13. Elongated ellipsoidal, opaque, light-blue or green. Gage 12-14 mm. (Illustration 88, fig. 29).

Type 14. Truncated conical, semi-transparent and opaque, dark-blue, light-blue, yellow, or green. Gage 2-3 mm.

Type 15. Same. Gage 5-14 mm.

Type 16. Truncated conical, semi-transparent and opaque, black, light-blue, dark-blue, yellow, or red. Gage 2-3 mm.

Type 17. Same. Gage 5-9 mm.

Type 18. In shape of conjoined rings, opaque, black or light-blue. Gage 5-12 mm.

Type 19. Drop-like, opaque, green. Gage 5-12 mm.

Division II Have the appearance of a regular polygon in cross-section. The shape was induced by upsetting after coiling-on in heated state.

Type 1. Prismatic hexagonal, semi-transparent or opaque, black, dark-blue, light-blue, or yellow. Gage 2-3 mm.

Type 2. Same. Gage 5-14 mm.

Type 3. Truncated pyramidal, semi-transparent or opaque, black, dark-blue, brown, light-blue, or yellow. Gage 5-9 mm.

Type 4. Truncated-pyramidal hexagonal, opaque, yellow. Gage 9-11 mm.

Type 5. Elongated oval, transparent, dark-blue. Gage 5-8 mm. (Illustration 88, fig. 36).

Division III Diamond-shaped in cross-section.

Type 1. Prismatic, transparent, yellow. Gage 10-12 mm. (Illustration 88, fig. 30).

Division IV Elliptical in cross-section.

Type 1. Ellipsoidal, with an opening at one of the two foci of the ellipse. Opaque, yellow or dark-blue. Gage 10-12 mm.

Division V Rosette-shaped in cross-section.

Type 1. Oblate spherical, black, yellow, dark-blue, or light-blue. Gage 7-10 mm.

Type 2. Annular, opaque, light-blue or yellow. Gage 5-9 mm.

Type 3. Ellipsoidal, opaque, light-blue. Gage 12 mm.

Group III Made as beads of Group II, with subsequent application in heated state of drops of glass of another color to produce spotted ornament ("with eyes").

Division I Round in cross-section.

Type 1. Spherical, opaque, black, with red, yellow, white, or light-blue "eyes". Gage 5-10 mm.

Type 2. Oblate spheroid, opaque, black, with white, red, light-blue, or yellow "eyes". Gage 5-12 mm. (Illustration 88, fig. 25, 27, 31).

Division II Have the appearance of an elongated rectangle in cross-section.

Type 1. Oval, opaque, light-blue with yellow "eyes" (Illustration 88, fig. 40). Gage 14 mm.

Group IV Made as beads of Group II, with subsequent impressing into the hot glass of specially prepared broken-off sections of colored filaments, with smoothing of the surface, as a result of which "eyes" are secured that have radially arranged dashes ("eyelashes").

Division I Round in cross-section.

Type 1. Spherical, opaque, black, yellow, or light-blue, with red "eyes", sometimes with green, light-blue, or yellow heart, and with white "eyelashes". Gage 5-12 mm.

Type 2. Oblate spheroid, opaque, light-blue, black, green or yellow, with "eyes" of the same sort (Illustration 88, fig. 28). Gage 8-13 mm. (Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, Illustration VII, fig. 5).

Type 3. Cylindrical opaque, black or yellow, with "eyes" of the same sort. Gage 15-18 mm.

Group V Made as beads of Group II, with subsequent impressing of small strips of glass of another color, in the shape of straight, wavy, or zigzagging lines.

Division I Round in cross-section.

Type 1. Spherical, opaque, black, with yellow, white, or light-blue strips. Gage 5-10 mm. A variant: the strips consist of a thick filament of white glass wound about with a delicate light-blue glass filament (Illustration 88, fig. 38).

Type 2. Oblate spheroid, opaque, black, dark-blue, or light-blue, with white, yellow, red, light-blue, or green strips. Gage 6-12 mm. (Illustration 88, fig. 32, 33). These beads sometimes have additional longitudinal notching. A variant: the strip consists of two filaments, black and white, wound around each other (Illustration 88, fig. 39).

Type 3. Keg-shaped, close to cylindrical, opaque, black or dark-blue, with white, yellow, or light-blue strips (Illustration 88, fig. 34). Gage 6-10 mm. (Fyodorov-Davydov, Vainer, and Mukhamadiyev, Illustration III, fig. 13).

Type 4. Annular, opaque, red, black, or green, with yellow or white strips. Gage 7-10 mm.

Division II Have the shape of an elongated rectangle in cross-section.

Type 1. Round in longitudinal section, opaque, black yellow, or red, with white strips. Gage 15-17 mm.

Type 2. Close to rectangular shape in longitudinal section, opaque, white, with black incrustation (Illustration 88, fig. 42). Gage 15 mm.

Group VI Made as beads of Group II, with impressing of small strips of glass and supplementary ornamentation with drops of fluid glass.

Division I Round in cross-section.

Type 1. Spherical, opaque, black, with black-and-white strips wound of two filaments, and with white "eyes". Gage 15-17 mm.

Type 2. Oblate spheroid, opaque, black, with yellow strips and white "eyes". (Illustration 88, fig. 37). Gage 15 mm.

Group VII Made as beads of Group II, with subsequent impressing of crumbs of variously colored glass into the surface of the bead.

Division I Round in cross-section.

Type 1. Spherical, opaque, black, with red, dark-blue, black, white, and green spots. Gage 5-12 mm.

Type 2. Oblate spheroid, opaque, as above in color. Gage 9-15 mm.

Group VIII Made by coiling filaments of softened glass around a hard rod.

Division I Round in cross-section.

Type 1. Spiralling, transparent, black or white. Gage 15-17 mm. (Illustration 88, fig. 20, 24).

Group IX Made of fragments of glass in various colors, compressed while in heated state.

Division I Round in cross-section.

Type 1. Spherical, opaque, black, light-blue, dark-blue, yellow, and red. Gage 7-8 mm.

Type 2. Oblate spheroid, opaque, as above in color. Gage 5-8 mm.

Group X Made of compressed softened glass ribbons of various colors, with subsequent piercing of openings by means of a hard rod.

Division I Round in cross-section.

Type 1. Spherical, opaque, black-green-white (Illustration 88, fig. 41) or red-dark-blue-yellow. Gage 10-20 mm. (Busyatskaya, 1976, Illustration I, fig. 1).

In 1959-1980 the Volga Archeological Expedition found at the Selitryonnoye, Vodyanskoye, and Tsarevo sites 1074 beads, of which 912 were at the Selitryonnoye site. The following types of beads occur commonly: II-I-2 black - 35; light-blue - 72; II-I-4 black - 45, light-blue - 81, yellow - 31; II-I-6 black - 26, light-blue - 69, yellow 15; II-I-16 light-blue - 20, yellow - 14; III-I-2 black - 30; IV-I-1 black - 46, light-blue - 26, yellow - 16; IV-I-2 black - 92, light-blue - 45, yellow - 40; V-I-1 black - 19; V-I-2 black - 54; V-I-3 black - 16. The remaining types are present in small quantities (not more than 10-12 specimens per type), and they make up 1%.

Glass Pendants or Danglers

Considerably fewer pendants are found than beads. A total of 53 specimens were found at the sites referred to during the same period. They may have been used in jewelry as beads, but also as separate ornaments, for example at the ends of women's hair braids, or as amulets. We set as the basis of the classification of pendants the same principle of technology as in the case of beads. Pendants are considerably more massive than beads (Busyatskaya, 1976, p. 43-45, Illustration II).

Group I Made as beads of Group III.

Division I Round in cross-section.

Type 1. Oblate spheroid, opaque, black with white "eyes". Gage 25 mm.

Group II Made as beads of Group IV.

Division I Round in cross-section.

Type 1. Oblate spheroid, opaque, black, with red "eyes" having white "eyelashes". Gage 30-32 mm. (Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, Illustration VII, fig. 7).

Type 2. Same, with rollers of light-blue glass around the exiting points of the openings. Gage 30 mm.

Type 3. Cylindrical, opaque, black, light-blue, or yellow, with dark-red "eyes" having white "eyelashes". Gage 23-33 mm.

Type 4. Same, with rollers of glass of the same color as the pendant itself, laid longitudinally to the axis. Gage 25-33 mm.

Group III Made as beads of Group V.

Division I Round in cross-section.

Type 1. Oblate spheroid, opaque, black, with white, yellow, light-blue, or red strips (Illustration 89, fig. 4, 5). Gage 25-30 mm. (Busyatskaya, 1976, Illustration I, fig. 3).

Type 2. Cylindrical, opaque, black, light-blue, or yellow, with white, yellow, or red strips. Gage 25-30 mm.

Group IV Made by compressing a lump of hot glass of a single color, forming it with pincers and cutting tool, with subsequent thrusting-through of the opening.

Division I Have the shape of an elongated rectangle in cross-section, with lower part made more acute; the opening is in the opposite upper end of the rectangle.

Type 1. In the form of an irregular diamond, opaque, black. Gage 25 mm. (Illustration 88, fig. 35).

Group V Made by compressing a lump of hot glass of a single color, forming it with pincers and cutting tool, with subsequent application to the surface of drops of glass of another color ("eyes") and thrusting-through of the opening.

Division I Has the shape of an elongated rectangle in cross-section.

Type 1. Free outline with drooping edge, opaque, black, yellow, or light-blue, with white or yellow "eyes". Gage 25-30 mm.

Group VI Made as pendants of Group V, but in place of drops, "eyes" with "eyelashes" are applied as in beads of Group IV.

Division I Have the shape of an elongated rectangle in cross-section.

Type 1. Free outline with drooping edge, opaque, black, yellow, or light-blue, with dark-blue "eyes" having white "eyelashes". Gage 25-28 mm. (Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, Illustration V, fig. 23).

Type 2. Triangular, opaque, yellow, with the same sort of "eyes". Gage 25 mm.

Group VII Made as beads of Group VII.

Division I Have the shape of an elongated rectangle in cross-section.

Type 1. Free outline with drooping edge, opaque, black or light-blue. Gage 25-30 mm. (Illustration 89, fig. 1).

Type 2. Close to triangular, opaque, black. Gage 35 mm. (Illustration 89, fig. 3).

Group VIII Made as beads of Group X.

Division I Round in cross-section.

Type 1. Spherical, opaque, green-yellow-white or white-light-blue. Gage 25-30 mm. (Illustration 89, fig. 10).

Division II Have the shape of an elongated rectangle in cross-section.

Type 1. Free outline, with drooping edge, opaque, yellow-white or yellow-red. Gage 26-30 mm.

Group IX Made by forming with pincers a lump of hot glass seated upon a hard rod.

Type 1. Shaped like a figure of a bird, transparent and opaque, colorless, white, light-blue, and dark-blue (Illustration 88, fig. 46; Illustration 89, fig. 2). Gage 10-20 mm. (Busyatskaya, 1976, Illustration I, fig. 2).

Glass Bracelets, or Bangles

Bracelets are divided into groups in accordance with the method of manufacture and the ornamentation (Busyatskaya, 1976, p. 45-47, Illustration III).

Group I Made of glass of a single color without supplementary ornamentation. Round in cross-section.

Type 1. Smooth, transparent and opaque, black, light-blue, dark-blue, green, yellow, or dark red (Illustration 89, fig. 18).

Type 2. Smooth, with a flattening at one point in the form of an escutcheon, semi-transparent, green or violet.

Group II Made of glass of a single color without subsequent ornamentation. Semicircular in cross-section.

Type 1. Smooth, opaque, yellow turquoise, black.

Group III Made of glass of a single color with impressing of glass filaments. Round in cross-section.

Type 1. Smooth, opaque, dark red, with white longitudinal lines, black with yellow or yellow with turquoise.

Type 2. Smooth, opaque, dark-blue with red lines wound around the bracelet, and violet with white lines of the same sort.

Type 3. Smooth, opaque, black, with yellow longitudinal strip and green-and-red spiralling filament.

Group IV Made of stratified multi-colored glass. Round in cross-section.

Type 1. Smooth, opaque, green-and-red.

Group V Made by drawing out softened glass semi-manufactures of a single color upon a flat surface without supplementary ornamentation. Semicircular in cross-section.

Type 1. Smooth, opaque, black, light-blue, dark-blue, yellow, or dark red.

Type 2. With two small acorns at the ends, applied in heated state by means of a cutting tool, opaque, light-blue.

Group VI Made by drawing out a softened monochrome glass semi-manufacture against a flat surface, with subsequent ornamentation by means of narrow strips of glass. Semicircular in cross-section.

Type 1. Opaque, black or light-blue, with white or yellow narrow longitudinal strips.

Type 2. Opaque, black or yellow with yellow or light-blue broad longitudinal strip.

Type 3. Opaque, black with yellow longitudinal strip, wound about with filaments of light-blue or red glass.

Type 4. Opaque, black with narrow disordered white stick-ons.

Type 5. Opaque, black with longitudinal strips and stick-ons blue in color.

Group VII Made by drawing out a softened glass monochrome semi-manufacture, with subsequent impressing of bits of vari-colored glass upon the whole surface. Round in cross-section.

Type 1. Smooth, opaque, black, with white, red, yellow, green, or light-blue spots.

Group VIII Made of a twisted softened monochrome glass rod, without subsequent ornamentation. Square in cross-section.

Type 1. Opaque, black, light-blue, or green.

Group IX Made of a softened rod with supplementary filaments of glass of another color. Round in cross-section.

Type 1. Opaque, black-and-white or light-blue-and-red.

Group X Made of monochrome glass with incised spiral notching. Round in cross-section.

Type 1. Opaque, black (Illustration 89, fig. 17).

Glass Finger-Rings

Technological approaches are again placed at the basis of the classification (Busyatskaya, 1976, p. 47-49).

Group I Made by drawing out from a piece of monochrome glass, without subsequent ornamentation. Round in cross-section.

Type 1. Smooth, opaque, yellow, green, or light-blue (Illustration 89, fig. 15).

Type 2. Smooth with flat oval escutcheon, opaque, yellow or black.

Group II Made by drawing out from a piece of monochrome glass. Semi-circular in cross-section.

Type 1. Smooth, opaque, light-blue, dark-blue, green, yellow, or black.

Type 2. Smooth with flat oval escutcheon (Illustration 89, fig. 12, 13), light-blue, black, dark-blue, yellow, or green (Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, Illustration III, fig. 5, 7).

Group III Made by drawing out from a piece of monochrome glass with subsequent impressing of filaments of glass of another color. Semi-circular in cross-section.

Type 1. Opaque, smooth, black, with white filaments.

Group IV Made from a drawn-out monochrome glass rod, with transverse strips of glass of another color impressed upon it. Round in cross-section.

Type 1. Smooth, opaque, dark red with white strips.

Group V Made of a drawn-out monochrome glass rod, with subsequent placement of relief droplets of glass of another color. Oval in cross-section.

Type 1. Reliefed, opaque, black with white droplets (Illustration 89, fig. 14).

Group VI Made of a rod twisted together out of filaments of different colors. Round in cross-section.

Type 1. Smooth, opaque with oval escutcheon, white, dark-blue, red, and yellow.

All in all, during the same period 63 specimens of glass bracelets and 15 glass finger-rings were found at the sites referred to.

Glass Mounts for Finger-rings

These were set into metal finger-rings as substitutes for precious or semiprecious stones. Usually the glass mounts are single-convex lenticular, transparent or opaque, ordinarily colorless, round or oval (Illustration 89, fig. 6-8; Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, Illustration VI, fig. 8, 9). These mounts were made by letting drops of liquid glass fall upon a flat surface, and on hardening the glass assumed the desired shape. In addition to the colorless sort, black, light-blue, green, or dark-blue mounts are found on rare occasions. Gage 8-14 mm.

In addition to single-convex oval settings, delicate flat mounts (oval or round) were also made, and likewise rectangular or square ones with beveled edges (Illustration 89, fig. 11).

Sometimes a glass bead split in half was used as a mount. Sometimes a slip of paper bearing a magical inscription was placed beneath the glass mount. A ring with such a setting and slip of paper was converted into an amulet.

At the Selitryonnoye site there was found a flat oval mount with an engraved ornament in the form of a plaited design which was a variant of the "lucky knot". (Illustration 90, fig. 15).

Window Glass

Window glass usually took the form of round disks with the edge bent up all round. The circular openings in ganch window lattices are of the same diameter. The glass is colorless and transparent. In the center is an elevation, a trace from the pontil. Through it a glass bubble had been produced by blowing; the bubble was then cut in half, the edges of the cut were bent upward, and flat disks were secured by exerting centrifugal force (Illustration 90, fig. 11).

Both entire disks and pieces cut out of them were set in window apertures. The pieces were glued to the ganch window lattices from within. Colored glass was also inserted; fragments of this, and also one fragment of a ganch lattice with such colored glass (Illustration 83, fig. 3), have been found at Golden Horde sites (Busyatskaya, 1976, p. 54-56, Illustration 1, fig. 4).

Glass Vessels

Glass vessels of Golden Horde manufacture are distinguished by colorless transparent glass, ordinarily of poor quality. The vessels were manufactured by blowing free or by blowing into a mould. The vessels were ornamented either by application of curly glass filaments and rods, or ribbons, of glass of the same color, sometimes with notches, or by applying a thick stratum of glass of a different color (Illustration 89, fig. 20-21; Illustration 90, fig. 5); on white or yellow transparent glass, yellow, light-blue, red, or white spots of glass in the form of patterns. Engraving is also encountered. The greater part of the vessels is without ornament. One encounters (but rarely) grains of gold sealed into the glass. Moulds for vessels have

been preserved almost not at all, but they can be reconstructed hypothetically (Busyatskaya, 1976, p. 50-54, Illustrations IV-VI).

Type 1. Vessels in the form of flagons with rounded body, tall cylindrical neck, and slightly everted rim (Fyodorov-Davydov, Vainer, and Guseva, Illustration V, fig. 14, 15). Sometimes these vessels stand upon annular bottom rests. A variant consists of vessels with conical body and no bottom rest. In these vessels the bottom is usually concave. These vessels are intended for perfumery.

Type 2. Large vessels with a conical body. The upper part of the vessels has not been reconstructed. The bottom is concave (Illustration 90, fig. 14).

Type 3. Tumbler-like vessels with vertical walls and a thick flat bottom.

Type 4. Beaker-like vessels with a conical body and a concave bottom rest formed separately.

Type 5. Broad truncated-conical vessels, sometimes with annular bottom rest, the bottom concave.

Type 6. Bowl-like vessels without handles, with everted or straight rims, the bottom flat.

Type 7. Bowl-like vessels with rounded bottom and loop-like handles.

Type 8. Tuvaks - urinals, for children's cradles. Two sorts are encountered, for boys, and for girls. Tuvaks of the first sort were a gamma-like bent tube with an expanded part at one end (Illustration 90, fig. 12); the other sort was a straight tube (Illustration 90, fig. 9) expanding at one end, where there was an oval or rectangular receptacle (Busyatskaya, 1976, fig. I).

Fragments of glass vessels are found that have spouts in the form of straight tubes expanding toward the body of the vessel; also curved glass handles, round in section, which come from vessels of undetermined form (Illustration 90, fig. 2, 3, 6). Sometimes double handles were made, in the form of conjoined glass rods. There are vessels on small feet (Illustration 89, fig. 22).

As a rule fragments of white transparent vessels are those encountered, but from time to time light-blue, very dark blue, and yellow glass were used for the production of vessels.

Occasionally one encounters small manufactures of opaque light-blue glass in the form of a solid biconical object with a groove at the point where the cone bases join. They are about 1.5 cm. long; their purpose is unknown (Illustration 89, fig. 19).

Analogies to Golden Horde Glass Manufactures

N. N. Busyatskaya has put forward a whole series of convincing

parallels in other regions to the glass manufactures of the Golden Horde. Glass beads find analogies in medieval Russia, in nomadic steppe barrows contemporaneous with the Golden Horde, in Central Asia, in Volga Bolgaria, among Mordvin antiquities, in Chersonesus, and more rarely among the antiquities of the preceding Khazar period. Golden Horde glass beads were a part of an international bijouterie inventory of the XIIIth-XIVth centuries which was widely distributed. As for the pendants or danglers, the circle of their analogies is appreciably narrower and includes for the most part Central Asiatic parallels. Pendants in the form of bird figures have no analogies.

The bracelets found at Golden Horde sites have analogies mainly in the medieval Black Sea littoral - Tmutarakan and Chersonesus; but also in Transcaucasia, in medieval Russia, in pre-Mongol Central Asia, in Khazar memorials (Sarkel), and also in Volga Bolgaria. Whereas in these regions (with the exception of Volga Bolgaria) the production of glass bracelets went into a decline after the Mongol conquest, and in some countries was cut off completely, on the other hand the production of glass bracelets flourished in the Golden Horde. Perhaps it was set up in the Golden Horde by craftsmen brought from these countries.

Analogies to glass finger-rings are known in medieval Russia, in medieval Western Europe, in Central Asia, and in Volga Bolgaria. Glass ring-mounts also have parallels in these countries. Some types of glass vessels are encountered among the medieval antiquities of Central Asia (types 1, 6, 7 and 8).

Imported Glass Vessels

These vessels are of delicate transparent glass, both colorless and with dark red and very dark blue color. They are usually painted with enamels plus gold leaf (Illustration 90, fig. 10; Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, Illustration VIII, fig. 1-4).

An attempt has been made to reconstruct some forms for these vessels on the basis of fragments that have been found, and on analogies to them (Busyatskaya, 1976, p. 53-54, fig. VII).

Of interest is a fragment of a dish from the Selitryonnoye site with painting in gold and in enamels of various colors upon the outer side of the dish, so that the design is seen through the thickness of the glass from within. Of the painting there has been preserved a circle containing four cranes among plant shoots with leaves and fruit (Arkheologicheskiye Otkrytiya for 1971, p. 234; Busyatskaya, 1976, Illustration 2). We are acquainted with splinters from suspension lamps having spherical bodies, expanding rim, and handles to either side. All these fragments of imported glass find analogies in the glass manufacture of medieval Syria and Egypt during the XIIIth and XIVth centuries.

A great deal of dark, almost black, glass, ornamented by impressing white filaments of non-transparent glass into the softened base-material, was imported from the Near East. Vessels of such glass often bear ribbing (Illustration 90, fig. 7,8). There are vessels with the same white incrustation on transparent dark brown glass.

CHAPTER IX

OTHER CRAFTS

Bone-Carving Production

Traces of bone-carving production activity were found at two villas in the eastern suburb on the Tsarevo site. These were manufactures of bone and antler, cuttings of bone and horn, and semi-manufactures. The techniques of turning objects on a lathe, sawing, cutting with a knife, polishing, and engraving including that by means of lathe-turning were put to use in the bone-carving trade.

The assortment range of the output of bone-carvers was not broad. It consisted for the most part of knife handles and of bolsters and caps for knife handles (Illustration 90, fig. 16, 20; Illustration 91, fig. 1-3; Illustration 92, fig. 6), often with lathe-turned ornament (Grekov and Yakubovski, 1950, Illustration 5; Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, Illustration I, fig. 2, 9; Illustration II, fig. 10, 12, 14; Guseva, 1974, Illustration 3, fig. 1-3; Fyodorov-Davydov, Vainer, and Guseva, 1974, Illustration II, fig. 9, 18-23; Illustration V, fig. 18; Yegorov and Fyodorov-Davydov, 1976, Illustration V, fig. 4, 5; Fyodorov-Davydov, 1981, Illustration 12, fig. 5, 8). Caps and bolsters were made (Illustration 90, fig. 17, 23, 24; Illustration 91, fig. 5, 6, 8, 13; Illustration 92, fig. 9-12), serving for the manufacture of knife-handles among other things (Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, Illustration I, fig. 7, 8; Illustration II, fig. 7, 11; Guseva, 1974, Illustration 3, fig. 5, 6; Fyodorov-Davydov, Vainer, and Guseva, 1974, Illustration II, fig. 10-12; Yegorov and Fyodorov-Davydov, 1976, Illustration V, fig. 1, 2, 9). Bone-carvers made stout lathe-turned grips for kinzhal daggers with cuts through them for the tang of the blade (Yakubovski, 1932, illustration 14, p. 45). The handles of knives were in some cases ornamented with relief festoons (Guseva, 1974, Illustration 1, fig. 1). There are found at Golden Horde sites knives plus their integral handles made of one piece of bone throughout (Illustration 90, fig. 18) and ornamented with engraving (Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, Illustration I, fig. 1).

Rings for archers were made (Illustration 101, fig. 13) with a projection to protect the finger (Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, Illustration II, fig. 15, 16; Grekov and Yakubovski, 1950, Illustration 4; Fyodorov-Davydov, Vainer, and Guseva, 1974, Illustration V, fig. 24). Bone arrows were made (Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, Illustration II, fig. 4; Fyodorov-Davydov, 1966 - 2, Illustration 10, fig. 4). Bone facings for bows are known.

At Golden Horde sites one encounters rather frequently bone tweezers, ordinarily ornamented, with flattenings at the ends of their

limbs (Illustration 92, fig. 2-5). Such objects are known at that time both in Russia memorials and in the Near East (Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, Illustration II, fig. 2, 3, 6).

The knucklebones of rams were used in gaming. Sometimes they were drilled and the holes were packed with lead (Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, Illustration I, fig. 4-6). There are cubical dice with spots on the faces (Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, Illustration II, fig. 9), and round counters like those used in checkers (Sarai 208, 192, 180).

Long bone pins with ornamented heads are encountered (Mukhamadiyev and Fyodorov-Davydov, 1970, Illustration 6, fig. 4).

Bone finger-rings were made, a semi-manufacture has been found in the form of two rings not yet separated from each other. There is an inscription "Allah" on the rings.

Harpoons and fish-hooks were made out of bone (Grekov and Yakubovski, 1950, Illustrations 4, 5).

Objects having two openings at the ends that bear traces of markings from cords or thongs, and having polished surfaces, were made of heavy bones of the horse (Fyodorov-Davydov, Vainer, and Guseva, 1974, Illustration II, fig. 26). It is held that these objects were used in processing leather. Various sorts of bone facings and plaques were made, sometimes with engraved or lathe-turned ornament.

Various sorts of awls were made of bone (Grekov and Yakubovski, 1950, Illustration 5; Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, Illustration I, fig. 11; Fyodorov-Davydov, Vainer, and Guseva, 1974, Illustration II, fig. 13-15; Guseva, 1974, Illustration 1, fig. 4); also basketry spatulas (Illustration 92, fig. 1; Fyodorov-Davydov, Vainer, and Guseva, Illustration II, fig. 8); dispensers (Illustration 91, fig. 4); pierced disks, tablets, and plaques (Illustration 90, fig. 19, 22; Illustration 91, fig. 7, 9, 12; Illustration 92, fig. 7, 13), and the like (Fyodorov-Davydov, 1966 - 2, Illustration 10, fig. 3; Fyodorov-Davydov and Mukhamadiyev, 1970, Illustration 6, fig. 5; Illustration 7, fig. 3; Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, Illustration II, fig. 1, 5, 8, 34; Guseva, 1974, Illustration 3, fig. 8-10; Fyodorov-Davydov, Vainer, and Guseva, 1974, Illustration II, fig. 16, 17; Illustration V, fig. 17, 19; Yegorov and Fyodorov-Davydov, Illustration V, fig. 3, 8); Fyodorov-Davydov, 1981, Illustration 12, fig. 7).

Many slabs for caskets and for other objects were also covered, like the handles of knives, with simple incised geometrical and lathe-turned ornamentation.

More complicated ornament appeared on slabs for facing quivers (Mukhamadiyev, and Fyodorov-Davydov, 1970, Illustration 6, fig. 6; Malinovskaya, 1974). Such slabs on quivers are ordinarily found in nomad barrows of the XIVth century, predominantly in the environs of the major Golden Horde cities where they were apparently in fact manufactured (Illustration 93). The main consumer interest, the

nomadic population of the steppes, required an altogether different decoration for these articles than that in the decor of the architectural tiles or the glazed ceramics calculated for the taste of the city population (Fyodorov-Davydov, 1976, p. 187-188).

Stone-Carving

In addition to imported stone vessels, which will be discussed in our chapter on trade, large quantities of other stone manufactures are found in the Volga Golden Horde sites. At Golden Horde sites there are found in abundance round stone hand-mills with an opening for a post-grip on the concave upper stone. There are many whetstones (Illustration 95, fig. 1-5; Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, Illustration II, fig. 22, 23; Fyodorov-Davydov, Vainer, and Guseva, 1974, Illustration II, fig. 27). There are stone scale-weights (Illustration 95, fig. 7) or weights for spinning with the distaff. There is a weight of white stone that bears symbols (Fyodorov-Davydov, Vainer, and Guseva, 1974, Illustration IV. fig. 16). The working of semi-precious stones was widespread (Fyodorov-Davydov, Vainer, and Guseva, 1974, p. 106). To judge by the fact that in some parts of the Selitryonnoye site small fragments of sardonyx, turquoise, rock crystal, and other stones have been found, there will have been shops for the manufacture of articles from these sorts of stones. Rejected and unfinished articles of sardonyx (Illustration 87, fig.10) and of jadeite are encountered - for example, finger-rings. This confirms the fact that articles of semi-precious stones were manufactured on the spot.

It was mostly beads and pendants that were made of these stones (Illustration 87, fig. 4, 8, 9, 12, 14, 16; Illustration 88, fig. 1-16); also finger-rings (Illustration 87, fig. 3, 5, 6, 10; Fyodorov-Davydov, Vainer, and Guseva, 1974, Illustration V, fig. 16), often with an escutcheon upon which the inscription "Allah" was placed (Galkin, 1972, Illustration 1), and mounts for rings (Illustration 87, fig. 2; Illustration 88, fig. 17), mainly of rock crystal (Illustration 87, fig. 20-25); these are of convex oval or square shape with beveled edges (Fyodorov-Davydov, Vainer, and Guseva, 1974, Illustration 8, fig. 1-3). Seals of nephrite are found (Illustration 87, fig. 15; Fyodorov-Davydov, Vainer, and Guseva, 1974, Illustration 13, Illustration II, fig. 29), and of sardonyx.

At the time of the excavations of A. V. Tereshchenko on the Tsarevo site there was found a belt-buckle with an aperture for the belt to pass through. It was carved with an image of a beast (Grekov and Yakubovski, 1950, Illustration 21). There were also fragments of highly artistic carved plaques of white nephrite bearing an image of a running stag (Grigoriev, 1847, p. 374), and also two plaques with an image of a fantastic beast. At the Selitryonnoye site there were found a belt-buckle of nephrite with a side aperture for the belt (Illustration 87, fig. 13), an oval object of rock crystal with carved ornament (Illustration 87, fig. 19), and other manufactures (Illustration 87, fig. 11, 18, 27) in semiprecious stones.

The Working of Iron

The iron-working craft in the Golden Horde cities has scarcely been studied at all. Only its output is known.

In Golden Horde smithies axes of various types were made (Yegorov and Poluboyarinova, 1974, Illustration I, fig. 19; Fyodorov-Davydov, Vainer, and Guseva, 1974, Illustration IV, fig. 21), also adzes (Fyodorov-Davydov, Vainer, and Guseva, 1974, Illustration III, fig. 1), shovels, hoes, and wedges (Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, Illustration V, fig. 4, 11; Fyodorov-Davydov, Vainer, and Guseva, 1974, Illustration III, fig. 13); hinged scissors of the present-day type (Fyodorov-Davydov, Vainer, and Guseva, 1974, Illustration IV, fig. 1), knives with tang (Illustration 96, fig. 13, 14; Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, Illustration IV, fig. 12, 15, 16; Illustration V, fig. 17, 18; Yegorov and Poluboyarinova, 1974, Illustration I, fig. 8; Fyodorov-Davydov, Vainer, and Guseva, 1974, Illustration IV, fig. 19; Yegorov and Fyodorov-Davydov, 1976, Illustration I, fig. 1, 2), fish-hooks (Grekov and Yakubovski, 1950, Illustration 4; Yegorov and Poluboyarinova, 1974, Illustration I, fig. 6, 7), mattocks (Yegorov and Poluboyarinova, 1974, Illustration I, fig. 5), saws (Grekov and Yakubovski, 1950, Illustration 3), and various other tools (Fyodorov-Davydov, Vainer, and Guseva, 1974, Illustration IV, fig. 11).

There are frequent finds of forged nails four-sided in cross-section and with broad heads, hooks, dog-nails, cramps, arcs, loops, drifts, chain links (Illustration 96, fig. 1, 2; Illustration 97, fig. 4, 6, 15; Illustration 98, fig. 5, 7), and manufactures of like sort (Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, Illustration IV, fig. 7, 8; Fyodorov-Davydov, Vainer, and Guseva, 1974, Illustration III, fig. 3, 5; Yegorov and Poluboyarinova, 1974, Illustration I, fig. 3, 13-15; Yegorov and Fyodorov-Davydov, 1976, Illustration I, fig. 4, 5, 6, 9, 16, 17; Illustration VI, fig. 2, 5, 6). Iron clasps are found (Illustration 96, fig. 18-20; Illustration 97, fig. 7; Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, Illustration V, fig. 21; Illustration VI, fig. 10; Fyodorov-Davydov, Vainer, and Guseva, 1974, Illustration III, fig. 2-3; Yegorov and Fyodorov-Davydov, Illustration I, fig. 9).

Many two-cylinder iron locks are found (Illustration 97, fig. 1, 2), of a type common to all Eastern Europe (Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1974, Illustration IV, fig. 1-5; Illustration V, fig. 6; Yegorov and Poluboyarinova, 1974, Illustration I, fig. 10; Fyodorov-Davydov, Vainer, and Guseva, Illustration III, fig. 8-10; Illustration IV, fig. 5), and also keys for these (Illustration 97, fig. 3, 5, 8, 12; Yegorov and Poluboyarinova, 1974, Illustration I, fig. 11). Small iron locks were often finished off with a bronze plate. Iron "steels" for striking fire are found, mainly oval with a hole cut through them, or "bun-shaped" (Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, Illustration V, fig. 22; Fyodorov-Davydov, Vainer, and Guseva, 1974, Illustration III, fig. 6).

There is a "steel" with three recesses on the back for the fingers and with ornament in the form of triangular figures executed by

incision on the flanks of the blade.

Articles of horse-furniture are represented predominantly by arched stirrups with a broad, flat, almost oval step (Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, Illustration VI, fig. 3; Yegorov and Poluboyarinova, 1974, Illustration I, fig. 20; Sarai 939), and by two-part bits with broad movable rings at the ends of the parts (Mukhamadiyev and Fyodorov-Davydov, 1970, Illustration 7, fig. 5; Yegorov and Poluboyarinova, 1974, Illustration I, fig. 21). Instead of horseshoes, iron plates were made, with pointed ends and often with a lug in the middle (Illustration 98, fig. 1-4). The pointed ends were fitted through slots in the hoof, and the broad part lay lug-downward beneath the hoof (Rozenfeld, 1960, p. 278; Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, Illustration 19; Yegorov and Poluboyarinova, 1974, Illustration I, fig. 12; Yegorov and Fyodorov-Davydov, 1976, Illustration I, fig. 10; Illustration VII, fig. 6).

Arrowheads always have a tang with a stop for the shaft (Illustration 96, fig. 6-12; the blade was most usually diamond-shaped, willow-leaf-shaped, or close to triangular in contour (Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, Illustration IV, fig. 11; Illustration VI, fig. 2; Yegorov and Poluboyarinova, 1974, Illustration 1, fig. 2, 9). Narrow three- and four-facetted arrowheads are found (Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, Illustration V, fig. 3, 16; Yegorov and Poluboyarinova, 1974, Ilustration I, fig. 18; Illustration II, fig. 6).

In the Golden Horde cities one finds fragments of swords and sabers which have the arms of the crosses bent pointward along the blade (Fyodorov-Davydov, Vainer, and Guseva, 1974, Illustration I, fig. 1), and kinzhal daggers (Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, Illustration IX, fig. 33).

From the A. V. Tereshchenko excavations at the Tsarevo site we are acquainted with a saber having no cross but bearing the name of the Khan Ozbeg (Grekov and Yakubovski, 1950, Illustration 14, 15; Fedorow-Dawydow, 1972, Illustration 63).

Iron javelin-heads with sockets were made (Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, Illustration V, fig. 1), also spearheads with sockets and with a hook where the socket passes into the narrow leaf-like blade (Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, Illustration IX, fig. 34). We are acquainted with finds of mail armor fragments (Yakubovski, 1932, Illustration 17) and of maces (Illustration 96, fig. 5).

Iron fittings were made for leather wallets (Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, Illustration IV, fig. 6; Fyodorov-Davydov, Vainer, and Guseva, 1974, Illustration IV, fig. 6). Various other sheet-iron pieces (Illustration 97, fig. 9), ornaments, and fittings were made (Illustration 97, fig. 10, 11, 13, 14, 16; Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, Illustration VI, fig. 4; Fydorov-Davydov, Vainer, and Guseva, 1974, Illustration IV, fig. 7). There are many iron objects the purpose of which is not clear (Illustration 96, fig. 3, 4), for example branching iron articles

(Illustration 98, fig. 10) with the ends curled like rams' horns (Yegorov and Fyodorov-Davydov, 1976, Illustration VI, fig. 8; Fyodorov-Davydov, Vainer, and Guseva, 1974, Illustration III, fig. 12), and others.

Just as in Volga Bolgaria of the XIVth century, in the Golden Horde cities there was production of cast iron. Spherical kettles 25-30 cm. in diameter were cast in iron, sometimes with flat handles (Fyodorov-Davydov, 1966 - 2, fig. 4) and large bosses (Illustration 98, fig. 6), with projections for the hubs of wheels (Yegorov and Fyodorov-Davydov, 1976, Illustration III, fig. 2; Terekhova, 1974. A loop-shaped cast iron handle, round in section, for a vessel was found at the Vodyanskoye site.

Non-Ferrous Metalwork

In the culture stratum of the Golden Horde cities one finds many small casting moulds. The majority of these are stone, of white limestone or black slate. The simplest moulds are open-face ones, without casting gates or channels (Illustration 94, fig. 13, 16). These were used to cast plates, badges, semi-manufactures for carved or engraved plaques - that is to say, uniface objects, the surface of which was formed in the casting recess of the mould (Fyodorov-Davydov, 1966 - 2, Illustration 10, fig. 1, 2; Krymina, 1977, p. 249-250, Illustration 1, fig. 1; Illustration 2, fig. 1).

Another group consists of take-down casting moulds. The parts of the mould were held fast by joint pins. The moulds had pouring channels. To cast finger-rings they used two half-moulds with a recess in which a cylindrical core was placed (Yegorov and Fyodorov-Davydov, 1976, Illustration IV, fig. 3-5; Krymina, 1977, Illustration 1, fig. 2; Illustration 2, fig 2; Illustration 3, fig. 1; Illustration 4, fig. 2; Illustration 5, fig. 1). Sometimes hollows were carved out on the faces of one of the mould parts for the casting of various different articles (Illustration 94, fig. 14). Moulds have been found that were intended for the casting of a number of finger-rings at once, channels from three recesses being joined together. Alongside in this same half of the little mould there is a carved-out hollow for the casting of a pendant, and on the opposite side of the mould a tripartite recess for the casting of a round medallion, an ornamental figure, and some sort of horn-shaped ornament. In order that the casting recess might be filled quickly with metal, two channels led into it from a single pouring gate where the molten metal was released (Krymina, 1977, p. 250, 253-256, Illustration 1, fig. 3, 4; Illustration 2, fig. 3, 4; Illustration 3, 4; Poluboyarinova, 1978, Illustration 20; cf. Baranov, 1977, Illustration 1, 2).

The method of "flush-out" casting was utilized. Molten metal was poured into the pouring gate of this mould; it partially solidified against the walls of the recess, and then the residue ran out through a lower opening. Articles cast in this way often bear ornament imitating graining or corded filigree. Two moulds for the manufacture of identical danglers to be worn at the temples, found at the Tsarevo and the Selitryonnoye sites, were also intended for "flush-out" casting. Metal was poured into these moulds through a broad main gate and was

then promptly distributed among three channels and, after flowing over the walls of the recess in the mould, was led off through a channel set symmetrically opposite the pouring gate. In this mould the central channel was needed only for rapid distribution of the metal. The sprues that arose here were cut away from the rough casting (Grekov and Yakubovski, 1950, Illustration 8; Fedorow-Dawydow, 1972, Illustration 71; Krymina, 1977, p. 256-260; Illustration 5, fig. 2; Illustration 6, fig. 5, 7; Illustration 7, fig. 2, 3).

From Uvek there is a casting mould for earrings, the shape of which imitates Russian ones of the XIIIth century (Spitsyn, 1914, Illustration 24). This was also intended for "flush-out" casting. A mould for casting miniature vessels, from Saraichik (Galkin, 1978), also belongs to the same group; likewise a mould for casting spherocones, from the Tsarevo site (Yakubovski, 1932, Illustration 6, 7; Grekov and Yakubovski, 1950, Illustration 7; Mikhalchenko, 1974, Illustration 1, fig. 3, p. 48-49; Krymina, 1977, Illustration 6, fig. 6; Sarai 2).

Stone moulds were also used for casting lead objects and ornaments, in particular mushroom-shaped weights (Illustration 94, fig. 15). These moulds were used with an inserted rod that made it possible to produce a hole through the weight (Krymina, 1977, Illustration 6, fig. 1, 2, 3; Illustration 1, p. 256-258).

The technique of casting in moulds that imitated graining and corded filigree, and also the technique of "flush-out" casting, were well known in medieval Russia. Possibly it was from there that the Golden Horde master operatives too borrowed them; there is a suggestion to this effect in the external appearance of certain articles which reflect this technique - earrings having an early Russian type of pendant, plus a cross (Illustration 112, fig. 4). But the supplementary channels are evidently a local invention. The adaptation of moulds for the casting of articles on a mass scale - a number of finger-rings at once - speaks of a high level of the craft and of its being calculated to satisfy large demands on the part of the market (for publication of other moulds see Fyodorov-Davydov, 1964 - 2, p. 266, Illustration 14, fig. 5; Yegorov and Fyodorov-Davydov, 1976, Illustration IV, fig. 2).

Clay casting moulds are known (Spitsyn, 1914, Illustration 33; Ballod, 1923 - 1, Illustration 30; Ballod, 1923 - 2, Illustration 11; Fyodorov-Davydov, 1966 - 2, Illustration 10, fig. 5). A large series of such small moulds was found at Azov. These little moulds were usually made by pressing a finished article into moist clay, with finishing of the recess produced to be performed by a carver. After this the mould was fired. Such moulds were also made by direct carving in dried but unfired clay. Two-valve take-down moulds were also made from wax models. It was in this way, for example, that moulds were prepared for casting harness-bells. The bell, cast in one piece, was poured with a loose iron clapper-ball already inside it. The technique for such casting was well known in medieval Russia, and it was apparently borrowed from there by the Golden Horde craftsmen (Ryndina, 1963, p. 244-247).

Mirrors were made in various ways. Sometimes stone single-face moulds were made for them (Illustration 107, fig. 2). Round mirrors were cast in clay moulds prepared by pressing a finished mirror into the clay before it was fired. As a result of repetition of this process many times over, the objects cast lost in distinctness of ornamentation.

Craftsmen bought copper and bronze in the form of ingots which had sometimes been bent into annular shape from rods rectangular in section, cut off square at one end and pointed at the other. Among the finds at the Tsarevo and Selitryonnoye sites there are trade ingots of bronze and lead. The ingots were cut up into chunks which in turn went into the casting of objects (Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, Illustration I, fig. 23). As a secondary raw material, use was made of parts of bronze vessels, out of which sheets were cut. During the excavations of A. V. Tereshchenko there was found at the Tsarevo site a large rectangular sheet of bronze, apparently a trade semi-manufacture for the production of objects in the craft (Grekov and Yakubovski, 1950, Illustration 3). The craftsmen used crucibles and pouring ladles in casting. There was round-bottomed ceramic crucibles shaped like half an egg, with an opening at the bottom for release of molten metal, and sharp-bottomed and round-bottomed crucibles with cylindrical walls and no opening at the bottom (Grekov and Yakubovski, 1950, Illustration 6; Yegorov and Fyodorov-Davydov, Illustration IV, fig.1; Fyodorov-Davydov, Vainer, and Guseva, 1974, Illustration 1, fig. 20; Illustration V, fig. 28, 29; Guseva, 1974, Illustration f, fig. 1-3).

Bronze-founders were well acquainted with the technique of welding, in which articles were heated to the temperature of a soft consistency of the metal, and were then laid one upon the other and hammered together - it was in this way that finger-rings were processed. Rods for bracelets, finger-rings, and chains were cast separately and then cut up into the required lengths. Widespread use was made of various forms of striking and impressing ornaments in cold and in hot states, and also of engraving.

Massive cast-bronze anvils are known that were adapted for the preparation of embossed sheet metal with contours that are sections of spherical surfaces. The working surfaces of these anvils have spherical depressions of various diameters (Grekov and Yakubovski, 1950, Illustration 8; Fyodorov-Davydov, 1966 - 2, p. 245, Illustration 8, fig. 2).

Matrixes have been found with which sheet metal of free outline was embossed with images in relief. There is a fragment of a matrix in the form of a bar; on its working side there was a depression of spherical character, in the center of which there was a round die bearing a delicate plant pattern (Sarai 23). Embossing took place by setting a sheet of metal upon this surface and adding on top of it a piece of lead (the"pillow"). Upon being struck the sheet of metal

yielded and became impressed into the working face of the matrix, so that the image was imprinted upon it. Another matrix is arranged in a different way. This is a bar the base of which is a rectangle and the sides of which are inclined. The working surface is flat, raised above the surface of the bar, and upon it there is an ornament in the form of strips in relief. On this, too, the sheet of metal was laid, and upon it the lead "pillow". Upon being struck the sheet assumed the form of a rectangular plaque with an edging, and the ornament was imprinted upon the plaque. Perhaps the same sort of matrixes were used to apply ornament to large sheets, with lead "pillows" placed beneath them (Sarai 50).

We know of a matrix in the form of a short cylinder, on the working surface of which there is an intaglio ornament, while on the other faces there are traces of hammer blows (Illustration 103, fig. 9). Such a matrix was used to emboss round plaques with a rosette pattern, but they could also be used to strike the ornament into a sheet of bronze or the thin wall of a bronze container, back of which a lead "pillow" was perhaps again put. The flank surfaces of this matrix have notches so that it may be held with tongs. There is a matrix from the Tsarevo site (Sarai 28) in the form of a bar with raised stylized Arabic letters accompanied by plant ornament. This is not a reverse image, but a direct one. Accordingly the matrix was placed beneath the sheet of metal and the ornament was imprinted through pressure from above, evidently imparted by a lead "pillow".

Little bronze anvils, faceted rectangles in section at one side and hexagonal on the other, perhaps served for embossing on metal (Sarai 449, 798, 799; Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, Illustration I, fig. 13). Small bronze anvils for jewelers' use are known (Fyodorov-Davydov, Vainer, and Guseva, 1974, Illustration I, fig. 3). Cup-shaped bronze matrixes perhaps served for impressing patterns (Illustration 103, fig. 13). Finished cast and embossed products were painstakingly smoothed with files.

A brass bracelet found at the Selitryonnoye site is of interest from the standpoint of the technique of processing non-ferrous metals. The bracelet is made from a narrow strip cut from a flat, carefully beaten-out object decorated on one side with an ornament in the form of straight lines and of leaves. The ornament is applied by means of a sharp chisel and some sort of sharp instrument that left traces shaped like a letter "pi". The ornament in question has been preserved on the inner side of the bracelet. On the face side a pattern was applied through stamping with a number of matrixes or dies. One die applied the parallel lines of a framing and a part of an inscription, and a second die applied the other part of the inscription. All the operations were carried out cold and were accompanied by intermediate annealings of the metal. Lead had been added to the brass as an artificial alloying material, since lead exercises a favorable effect on the mechanical and technological properties of brass by making it easier to forge, die-strike, and emboss the metal. On the edge of the bracelet there is ornament in the form of circlets which were applied with individual punches. A separate die was used to imprint the head of a lion on an end of the article (Fyodorov-Davydov, 1978, 1).

Remains from actual jewelry production itself have been brought to light at Golden Horde memorials. At the second villa in the southeastern suburb of New Sarai there was found, in a small wooden shed built against the main house, the shop of a master jeweler and goldsmith. Here there was a kiln and remains from goldsmith's working - drops of gold, for the most part of 94-98.9% pure gold content, round-bottomed and conical ceramic crucibles containing droplets of gold, ladles, kiln lining also showing small droplets of gold, cuttings from sheet gold and gold wire, gold manufactures, and lead, bronze and iron sheets. A bronze many-faceted scale-weight and the beam of a balance speak of the weighing-out of gold. Instruments in the form of punches and small anvils are represented. A punch has the shape of a small bronze hammer 3.2 cm. long upon an iron handle. On one end it bears a cylindrical projection from the working surface, having a design in the form of a circlet. Impressions from such a punch were found upon a bronze plaque on the spot. The other end had a quadrilateral projection. Among jewelers' instruments there were miniature spoons, perhaps for the preparation of grain-gold for graining (Guseva, 1974, Illustration 5; Fyodorov-Davydov, Vainer, and Guseva, 1974, Illustration I, fig. 2, 3, 5, 6, and 7; Illustration IV, fig. 2-4, 6-11, 13, 14; Illustration V, fig. 2, 5, 8, 12, 13, 28, 29; Illustration 9; Vainer and Krinari, 1974).

In the culture stratum of the Tsarevo site there was found a bronze plaque with trial impressions of a set of punches, arranged in the form of an incomplete circular ornamental motif (Sarai 27). Such punches were used to ornament jewelry manufactures, highly artistic ones in precious metals and commonplace ones in bsonze.

Jewelry shops of the Golden Horfe period have been laid open at Old Orkhei in Moldavia and at Cheboksary (Askheologicheskiye Otkrytiya for 1969, p. 132; Askheologicheskiye Otkrytiya for 1971, p. 454; Byrnva, 1973 - 2).

Touchstones were used in jewelry manufacture and in the precious metals trade. Some stones of this sort were found at the Selitryonnoye and Tsarevo (Sarai 1372 and 1373) sites. They have the shape of black pebbles, with strokes upon them from drawing a gold object across them. One had an opening so that it might be hung as a pendant (Illustration 95, fig. 8, 9).

Weapons of Bronze

Cast six-flanged maces are known (Illustration 109, fig. 2). An eight-flanged mace with a hollow socket, and a pin for fastening it to a wooden grip and an opening for driving this in from one side, was found at the Tsarevo site (Galkin, 1963). A similar mace was found by A. V. Tereshchenko at the same memorial (Grekov and Yakubovski, 1950, Illustration 31). The same sorts of mace-heads have been found in Volga Bolgaria. There is a bronze mace with four projections one of which has the form of a bird's beak (found by A. V. Tereshchenko at the Tsarevo site).

There are bronze rings for drawing the bow (Illustration 101, fig. 8), repeating the form of the bone ones, but with a projecting lug

(Yakubovski, 1932, Illustration 15; Grekov and Yakubovski, 1950, Illustration 4).

Wearing-Apparel Components in Non-Ferrous Metals

Earring-hoops were made of bronze, billon, silver, and gold, mostly in the form of "question marks" of heavy wire, the vertical rod of which was often wound about with delicate wire (Illustration 99, fig. 10, 12, 13). Such earrings are known in all of Eastern Europe in the XIIth-XIVth centuries; in particular there are many of them in the graves of nomads of that time. They had no ethnically symbolic character. Among a range of peoples - Uzbeks, Kazakhs, Russians, Tatars in the Caucasus - they were retained until the period of the late Middle Ages (Krotkov, 1915, p. 119, 129; Fyodorov-Davydov, 1964 - 2, Illustration 15, fig. 1; Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, Illustration I, fig. 12; Illustration II, fig. 32, 33; Mukhamadiyev and Fyodorov-Davydov, 1970, Illustration 6, fig. 3; Fyodorov-Davydov, Vainer, and Guseva, 1974, Illustration II, fig. 7; Illustration V, fig. 11; Yegorov and Poluboyarinova, 1974, Illustration II, fig. 3). There are earrings in the form of circlets not fully enclosed (Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, Illustration II, fig. 24), sometimes with the ends overlapping.

Bracelets are encountered, in bronze and in gold. There are cast bracelets (Illustration 104, fig. 12), flat and half-round in section, sometimes with a lion's muzzle on the flat unenclosed ends (Fyodorov-Davydov, 1966 - 2, Illustration 9, fig. 8; Kramarovski, 1978 - 1, Illustration 1-3). Moulds for casting two such bracelets were brought to light during A. S. Tereshchenko's excavations at the Tsarevo site (Kramarovski, 1978 - 1, p. 49). Bracelets twisted of wire are found; these have looped or flattened ends. Sometimes they have escutcheons bearing ornament that are welded or soldered on. There are cast ones imitating the wound bracelets with escutcheons and ornamented with a rosette (Sarai 84, 85). There are many strip bracelets cut out of bronze sheet and ornamented with embossing (Illustration 101, fig. 14). Of special interest are bracelets having lion's muzzles at their ends (Sarai 73, 58, 72). As an example of such a bracelet we may take the one from the Selitryonnoye site described above (Fyodorov-Davydov, 1978 - 1). A small straightened bracelet with a lion's muzzle at one end and a plaiting - a simplified Mongol "lucky knot" - at the other and with linear ornament between these was found at the Vodyanskoye site (Fyodorov-Davydov, 1978 - 1, Illustration 3). A massive bracelet in cast gold, with lion's heads on its flat ends and with a "lucky knot" on the broadened escutcheon-like central part and simplified reproductions of a Far Eastern cloud motif on the main part of the bracelet roughly triangular in cross-section, was found at the Selitryonnoye site. After having been cast in an open mould this article had not been bent circular; it was preserved as specie and was apparently buried as a hoard. Bracelets with lion's muzzles at their ends are quite often encountered in Eastern Europe among antiquities of the XIIIth-XIVth centuries. There are many of them in Volga Bolgaria, among Mordvin antiquities, in Russian cities. They appear in the Crimea; they are known in Central Asia and in the Golden Horde. The origin of this form apparently lies in the Golden Horde. M. G. Kramarovski has cleared up the eastern sources of this ornamentation

(Kramarovski, 1978 - 1).

Rings and finger-rings of gold, silver, and bronze are encountered in various types: simple ones without escutcheon and without inlays of narrow strips, their ends either brought together or not; wire ones in the form of spirals of several strands, or with ends overlapping; ones of twisted rods of square or triangular section, again with the ends brought together or not (Illustration 101, fig. 10, 11), sometimes with ornamental notching. Finger-rings with escutcheons are more complicated. These are usually found as strip-rings with a broadening in the form of an ornamental escutcheon with an opening for the insertion of a stone or glass jewel. Other strip-rings had an escutcheon in the form of an oval, round, or rectangular broadening (Illustration 101, fig. 5-7, 21) usually with a pattern - a small star, a lucky knot, sometimes false graining, and the like (Sarai 104, 105, 750, 977, 978; Grekov and Yakubovski, 1950, Illustration 9; Mukhamadiyev and Fyodorov-Davydov, 1970, Illustration 6, fig. 7; Fyodorov-Davydov, 1981, Illustration 12, fig. 10). The escutcheon was sometimes made separately and was soldered to the bent strip at the points where its ends joined (Illustration 101, fig. 1-4, 9; Sarai 782, 975, 981). On some rings the escutcheons had claws to hold a stone, mother-of-pearl, or glass mount (Fyodorov-Davydov, 1981, Illustration 12, fig. 9). One should assign among the ornaments bronze drop-like and sheet-metal pendants with a loop (Illustration 101, fig. 16; Yegorov and Poluboyarinova, 1974, Illustration II, fig. 4).

A bronze ornament for the head in the form of a long rod, wound at several places with delicate wire and having loops to which there were attached four rods, again wound with wire, comes from the A. V. Tereshchenko excavations at the Tsarevo site. At the opposite ends there were again loops to which long chains were attached. Some of the links of the chains constituted elongated free-outline strips of sheet metal with hooks at the ends.

At the Selitryonnoye site there was found a bronze ornament, apparently for wear on the head, having the form of a complex conjunction of chains on two long pins with loops (Illustration 102, fig. 9). Sometimes bronze chains with links shaped like a letter S were used as ornaments associated with clothing. They were fastened to clothing by means of pins (Sarai 89, 846-852, 1077). Links of heavy chains are found which are also usually S-shaped (Zaikovski, 1908, Illustration I, fig. 7; Fyodorov-Davydov, 1964 - 2, Illustration 15, fig. 5; Fyodorov-Davydov, Vainer, and Guseva, 1974, Illustration 11, fig. 6; Yegorov and Fyodorov-Davydov, 1976, Illustration VI, fig. 4). S-shaped links of heavy chains were sometimes ornamented with heads of animals (Illustration 102, fig. 1-3, 5-8). Clasps or buckles are distinguished according to the way they are fastened to a strap or belt. There were clasps without special arrangement for fastening to a strap: the strap caught the frame itself and had an opening for the tongue (Illustration 100, fig. 6, 11, 12; Sarai 226, 458, 463; Yegorov and Fyodorov-Davydov, 1976, Illustration 1, fig. 6). A second group of buckles intended to be fastened to the belt by means of pins had escutcheons (Illustration 100, fig. 10, 16; Yegorov and Fyodorov-Davydov, 1976, Illustration VII, fig. 5). A special group was made up of buckles with two openings, one for the tongue, the other for

fastening to the strap (Illustration 100, fig. 7, 8, 9). The axis for the tongue lay between these two frames (Fyodorov-Davydov, 1966 - 2, Illustration 9, fig. 6; Yegorov and Poluboyarninova, 1974, Illustration II, fig. 5; Sarai 451, 459). There are bronze buckles built on the following principle: An escutcheon with a slot at one end of the belt, and at the other a spatula-like piece which entered this slot but, upon being turned, easily slipped out of it (Krotkov, 1915, p. 124). A silver clasp in the form of an escutcheon with side members, into which there was set an axis for attachment of a strap or belt, was found at the Tsarevo site. The other end of the strap was passed beneath this axis. The clasp was ornamented with niello (Fedorow-Dawydow, 1972, Illustration 115; Vainer, 1964, Illustration 1). There are bronze clasps of this type, without ornament (Illustration 100, fig. 5). One finds clasps of bronze in the form of the Mordvin syul'gam.

A great quantity of bronze, billon, silver, and gold plaques were made for straps and for leather and wooden articles. Many plaques were fastened to the article by means of rivets or claws (Illustration 100, fig. 14, 15, 18; Illustration 101, fig. 18; Illustration 104, fig. 4; Sarai 803-809, 834, 872). The shapes of plaques are decidedly various. Plaques without rivets are also varied (Fyodorov-Davydov, 1964 - 2, Illustration 9, fig. 2, 3; Fyodorov-Davydov, 1966 - 2, Illustration 9, fig. 3; Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, Illustration I, fig. 19; Illustration II, fig. 26, 31; Fyodorov-Davydov, Vainer, and Guseva, 1974, Illustration I, fig. 5-7; Illustration IV, fig. 2,4, 6-9; Fyodorov-Davydov, 1964 - 2, Illustration 15, fig. 6). Various sorts of bosses with openings, to be sewn to objects or to clothing, were in widespread use (Illustration 101, fig. 15, 19; Illustration 106, fig. 4; Sarai 866, 471, 1411; Fyodorov-Davydov, 1964 - 2, Illustration 10, fig. 2; Fyodorov-Davydov, Vainer, and Guseva, 1974, Illustration V, fig. 10).

Some belt plaques had slots for supplementary straps or rings for hanging various objects to the belt (Krotkov, 1915, p. 124). Sometimes belt plaques had shaped-slots into which a spatula-like piece attached to a supplementary strap was inserted. This served to attach necessary articles to the belt (Illustration 109, fig. 1). With a twist the spatula readily slipped out of the slot and the suspended article, together with its strap, separated from the belt. Pieces for protection of the ends of belts are encountered (Illustration 100, fig. 13; Illustration 104, fig. 1-3). There are plaques to join together four straps, or to decorate the point at which two straps cross. They have four escutcheons in a cruciform arrangement and a round à jour embossed center (Sarai 412). Rings for straps to pass through were made: simple ones bent around from narrow strips of metal, ones shaped like a rectangular plate with slots for straps in the ends; ones in the shape of a rectangular box with slots at its ends and an image of a small human face on the front (Sarai 228); and other shapes (Fyodorov-Davydov, Vainer, and Guseva, 1974, Illustration IV, fig. 13). A round plaque without claws or openings and with a struck ornament on both sides was found at the Tsarevo site. Its purpose is unknown (Fyodorov-Davydov, 1964 - 2, Illustration 16, fig. 1).

There have been finds of one-piece cast bronze and gold pendants in the form of a ball with a hoop (Illustration 99, fig. 3-5; Fyodorov-

Davydov, Mukhamadiyev, and Vainer, 1970, Illustration II, fig. 29; Illustration III, fig. 10; Yegorov and Fyodorov-Davydov, 1976, Illustration VII, fig. 1-3). Moulds were used to cast such pendants. Objects in the form of a rosette-shaped escutcheon with a foot in which a slot had been made were probably buttons to be attached by sewing.

Harness-bells with a slot are often found (Illustration 99, fig. 1-2, 6-9), both cast in one piece, and soldered together from two halves with a vertical or a horizontal seam (Fyodorov-Davydov, 1970, Illustration 6, fig. 2; Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, Illustration III, fig. 2; Fyodorov-Davydov, Vainer, and Guseva, 1974, Illustration IV, fig. 18; Yegorov and Fyodorov-Davydov, 1976, Illustration I, fig. 6, 7; Sarai 852, 1008, 1010-1012, 1015-1029). Small ones may have been used as clothing ornaments. But large cast bells, frequently with ornament, were also made (Sarai 1078, 1079; Grekov and Yakubovski, 1950, Illustration 31). A large bell, of spherical shape and with a hoop, comes from the Tsarevo site.

Hollow cylindrical bronze pendants with hoops, perhaps to protect articles of paper, are found (Sarai 9995).

Objects in Non-Ferrous Metals for Household Use

One frequently finds at Golden Horde sites bronze locks and springs for them (Illustration 104, fig. 7-9, 11-13), including ones shaped like horses (Illustration 10, fig. 8,9) or shaped like animals similar to a ram. These were soldered together from two halves and the exteriors were usually covered with circular ornament. Their mechanism consisted of springs holding closed a bow which was fastened at one end around the neck of the animal, and with the other end entering a slot upon its body. The key was inserted into a slot at the side in the rear part of the animal; it compressed the springs and freed the bow. Locks of this type in Eastern Europe appeared in the XIth century at Chersonesus, they spread within Volga Bolgaria and the Golden Horde, and to the west they spread all the way to the Dobrogea. Later this form was adopted by Russians and it survived in the factories at Tula until recently (Spitsyn, 1914, Illustration 35; Smirnov, A.P., 1951, p. 118-119; Fyodorov-Davydov, 1964 - 2, Illustration 14, fig. 3; Fyodorov-Davydov, 1968, p. 123; Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, Illustration III, fig. 6; Fedorow-Dawydow, 1972, p. 154; Fyodorov-Davydov, Vainer and Guseva, 1974, Illustration IV, fig. 12; Sarai 891, 892, 895, 896, 899, 901-907, 912-917, 921). There are cylindrical bronze locks (Illustration 104, fig. 11-13). The keys are shaped like a rod with a handle-loop at one end and projections at the other (Sarai, 925, 926, 996, 1046).

In Golden Horde bronze foundries there was manufacture of cast bronze multiple tapersticks upon a broad round base in the form of several cylindrical or prismatic bodies standing beside each other and narrowing upward to finish in a socket (Sarai 106, 758-760, 767). Another sort of cast taperstick consisted of a truncated-conical massive base with a socket at its top (Sarai 765). These forms of tapersticks are well known from the medieval Muslim East.

Bronze disks in the form of a ring with ornamented strips

attached to it and forming a network were perhaps used as suspended candelabra. Tapersticks were set upon this disk and it was suspended by a loop attached to its edge (Sarai 159). Bronze lamps in the form of small vessels having loops for suspension (Sarai 165) are found at Golden Horde sites. Inside on the bottom there is a small cylinder with an opening for a wick (Illustration 105, fig. 1). During the A. V. Tereshchenko excavations at the Tsarevo site there were found two cast bronze lamps in the form of low vessels upon feet and having a horizontally extended spout for the wick. One of the taper-holders has ornament and an everted handle of complex configuration (Grekov and Yakubovski, 1950, Illustration 28; Sarai 151).

One finds bronze striking-steels with a groove to set a steel blade into and with openings on the handle for the fingers.

There are finds of bronze tweezers (Illustration 105, fig. 4) and snuffers (Illustration 104, fig. 10).

Found in great quantity are bronze thimbles (Illustration 99, fig. 18, 19) of two sorts - of the present-day type, and also similar ones, but with an opening at the top (Fyodorov-Davydov, 1964 - 2, Illustration 15, fig. 4; Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, Illustration III, fig. 3; Fedorow-Dawydow, 1972, Illustration I, fig. 5). In Eastern Europe they appeared only in the XIVth century and the greater part of them have been found in Golden Horde ruins; in Western Europe thimbles appeared only later. Thimbles were made in the following way: a ring or circle were cut from metal beaten out thin, and two annular channels were made in it by means of a die. Then a trapezoidal piece was cut from a sheet which had previously been covered with point-indentations from a punch. This piece was curled into a tube, by means of a mandrel and while hot, and it was soldered to the ring-like or circular cap.

Bronze spacers were made (Illustration 99, fig. 20, 21). They were placed between the blade of a knife and its handle Zaikovski, 1908, Illustration 1, fig. 18, 19; Fyodorov-Davydov, Vainer, and Guseva, 1974, Illustration V, fig. 9). Small bronze nails and rivets (Illustration 100, fig. 1-4) with mushroom-shaped heads are found (Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, Illustration III, fig. 1, 12; Fyodorov-Davydov, Vainer, and Guseva, 1974, Illustration IV, fig. 15), also bronze caps turned up from a single piece of sheet metal and crimped along a seam (Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, Illustration II, fig. 37). Small bronze spoons (Illustration 104, fig. 14), are known, cut from sheet metal or cast (Fyodorov-Davydov, 1964 - 2, Illustration 16, fig. 2; Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, Illustration II, fig. 35; Illustration III, fig. 17; Illustration VI, fig. 11; Fedorow-Dawydow, 1972, Illustration 112; Sarai 800).

Hemispherical or flat bronze plaques with two slots are often found. Sometimes the parallel ends of a strip of metal, bent into a loop at the middle, have been thrust through the slots, after which the two free ends have been bent apart from each other at right angles (Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, Illustration VI, fig. 13). These cotterpins were fastened to objects made of wooden

planks (Illustration 99, fig. 11, 14-17).

Escutcheons with clinchers and movable loops are found (Illustration 106, fig. 1-2).

From the Golden Horde memorials of the Lower Volga we are acquainted with a large number of bronze plates of various shapes and purposes. We find plates with hinged loops - from caskets, book-covers, small boxes (Fyodorov-Davydov, 1966 - 2, Illustration 8, fig. 3; Fyodorov-Davydov, Vainer, and Guseva, 1974, Illustration 1, fig. 4); reinforcements for corners, with festooned edges and holes for small nails (Sarai 811, 830, 831); tops to small boxes, sometimes richly ornamented - for example, with gold or silver incrustation and engraving (Fyodorov-Davydov, 1966 - 2, Illustration 9, fig. 1, 2; Yegorov and Poluboyarinova, 1974, Illustration II, fig. 7; Fyodorov-Davydov, Vainer, and Guseva, 1974, Illustration IV, fig. 14). Massive plates cast à jour and with engraving are found - probably fittings to doors (Sarai 94, 127, 813-818; Grekov and Yakubovski, Illustration 29; Fedorow-Dawydow, 1972, Illustration 116).

The purpose of numerous leaden mushroom-like small weights remains unknown to this day (Illustration 103, fig. 1-7). These little weights have a cylindrical socket and a disk-like expansion, usually ornamented (Zaikovski, 1908, Illustration 1, fig. 17; Mukhamadiyev and Fyodorov-Davydov, 1970, Illustration 7, fig. 2). Apparently a strap was set into the socket and the socket was flattened in order to make the leaden object fast by pinching. Similar small weights of lead are found in pre-Mongol ruins of Volga Bolgaria (Bilyar) and of Khorezm. Small lead weights in the form of two truncated cones base to base and in that of stepped pyramids have also been found.

The production of round mirrors made either of billon or of a special light-colored alloy was carried out on a mass scale. One of the sides was covered with ornament and the other was polished. The mirrors sometimes have a handle to one side, and in the center a projection or a loop. The usual diameters are 6-8, 8-10, or 12-14 cm. There is a group of mirrors without ornament (Sarai 740). Ornamented mirrors are subdivided into several groups.

One finds mirrors with simple geometrical ornament in the form of concentric circles (Sarai, 41, 75, 93, 739, 741, 903; Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, Illustration II, fig. 30), in the form of circular compositions with radial ornament (Illustration 107, fig. 5), with cruciform ornament (Krotkov, 1915, p. 119), with ornament in the form of a Maltese cross (Sarai 742), with cross-and-arc ornament (Illustration 107, fig. 4), in the shape of a cross (Illustration 108, fig. 1), with voluted ends (Fyodorov-Davydov, 1964 - 2, Illustration 10, fig. 1; Fedorow-Dawydow, 1972, Illustration 110; Sarai 64), in the form of a cross with rosettes between its ends and spirals at the edge, and with zigzag ornament between concentric circles (Sarai 742). There are mirrors with a rosette of many petals in the center and an annular zone filled with diamonds having small triangles between them (Fyodorov-Davydov, 1966 - 2, Illustration 9, fig. 3). These compositions are genuinely Golden Horde ones, but some of them go back to the old tradition of the Alan mirrors of the VIIIth-IXth centuries.

These mirrors are distinguished by smaller dimensions and the presence of a low smooth thickening along the edges.

In a considerable group of mirrors the ornamentation goes back to Chinese motifs. These are mirrors with hieroglyphics (Grekov and Yakubovski, 1950, Illustration 33; Sarai 729), with representations of animals running in a circle (Illustration 108, fig. 2), sometimes in two concentric annular zones and with supplementary plant ornament (Sarai 16, 18, 68, 79, 718, 721-726, 730, 744, 1618; Fyodorov-Davydov, 1976, Illustration 126), with cross-like ornament and with small bumps in the sectors (Sarai 742), with four raised areas and X-shaped figures between them, located in an annular zone (Sarai 66, 694, 696, 699, 737), with ornament in the form of a network of four-petalled rosettes, with a representation of dragons, often having a festooned edge (Grekov and Yakubovski, 1937, Illustration 16; Fedorow-Dawydow, 1972, Illustration 109), with two (Illustration 108, fig. 4) or four fishes (Sarai 33, 69, 130, 729, 743, 747; Fyodorov-Davydov, 1976, Illustration 125) or with a conventional representation of waves and clouds. The mirrors of this group are usually larger in diameter and have a high raised edge.

Another group of mirrors has ornamentation that goes back to Iranian and Central Asiatic traditions. These are mirrors with representation of two symmetrically arranged sphinxes and with a circular Arabic inscription in Cufic letters (Fyodorov-Davydov, 1976, Illustration 127; Sarai 732), with a lion-hunting scene in which the mounted hunter pierces the lion with a lance (Fyodorov-Davydov, 1964 - 2, Illustration 16, fig. 4), or with the same sort of scene plus an annular belt containing images of flying birds (Sarai 91; Rakitina, 1955, p. 33-34). These mirrors are also of large dimensions and often have high raised edges.

Truly Golden Horde ornament on the mirrors is represented by complex arabesques with flowers like tulips and plant shoots around a six-petalled rosette in the center (Sarai 700, 701, 703, 905-916; Illustration 107, fig. 1; Illustration 111). This is the most numerous sort of Golden Horde mirror (Fedorow-Dawydow, 1977, Illustration 11). The same ornament is encountered with an Arabic inscription around the edge (Illustration 108, fig. 3). Mirrors are known that bear an image of a vixen and a vineyard - an echo of an old fable from classical times. There are mirrors with ornament in the form of a plant shoot running around an annular zone, mirrors with a projection in the center and six round medallions surrounded by borders of dots, each of them containing Arabic inscriptions in two lines (Grekov and Yakubovski, 1950, Illustration 34), mirrors with four many-petalled rosettes surrounded by wavy lines (Sarai 66, 737).

Simple household utensils of bronze, silver, or billon are found either cast in one piece or made of sheet metal. Cast silver vessels have the shape of a segment of a sphere with simple engraved ornamentation on the inward side of bowls, on the bottom, in the form of a circle (Yegorov and Fyodorov-Davydov, 1976, Illustration VIII). One finds conical small bowls cast in bronze with a flange on the bottom, small bowls with a spout and an opening on the opposite side for the attachment of a handle (Sarai 446), cups with an opening at the

edge for suspension (Sarai 137), and other forms. There are massive prismatic mortars with pestles (Illustration 98, fig. 11, 12; Grekov and Yakubovski, 1937, Illustration 9; Sarai 437). Some cast bronze vessels had handles in the form of horizontal lobes at the sides (Illustration 105, fig. 2, 3). These vessels have analogies in the metallic dishware of the medieval Muslim world.

There are vessels made of a single sheet of bronze or low-grade silver or rivetted and soldered of several pieces. They have the forms of large truncated-conical bowls with a flat bottom (Fyodorov-Davydov, 1981, Illustration 12, fig. 6; Sarai 416, 338), basin-like vessels with flat bottoms and everted edges (Sarai 136), truncated-conical bowls narrowing upward (Illustration 107, fig. 3), small flat pans (Sarai 146), small trays with rounded bottom, cups with a pouring spound the edges of which are bent inward (Sarai 781, 782), vessels of the type of a present-day colander of spherical or cylindrical form with openings (Sarai 443, 445, 784), tea kettles (Sarai 42, 127, 1041-1043), sieves (Sarai 748, 749), and dippers (Illustration 106, fig. 3). Bronze lids from vessels, mainly from pitchers (Sarai 135, 439-441, 779, 788, 790, 1408; Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, Illustration IV, fig. 6), etc., are numerous. Lids usually have a rosette-like ornament and a loop on top. There are such lids from Balakan (Oren-Kala), and in Azerbaijan (Yakobson, 1959, Illustration 112, fig. 2). There are miniature lids of this sort (Illustration 109, fig. 3). There are massive cast bows and handles for vessels, sometimes with the heads of little animals at their ends (Sarai 166, 453, 454, 459, 821). Ones analogous to these exist, for example, among the archeological materials of Dvin (in Armenia) and of Bailakan of the pre-Mongol period (Yakobson, 1959, Illustration 114, fig. B). Many handles and bows for vessels are of heavy wire round in section (Sarai 843, 844; Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, Illustration II, fig. 28). At the Ts revo site a cast bronze figure of a sphinx on a hemisphere was found during the excavations of A. V. Tereshchenko - probably an element of some large vessel (Grekov and Yakubovski, 1950, Illustration 27; Fedorow-Dawydow, 1972, Illustration 117).

Art Manufactures in Non-Ferrous Metals

Art manufactures of silver with engraving, widespread in the cities and steppes of the Golden Horde, deserve examination. The technique of the decor of these silver manufactures, for the most part vessels - goblets, bowls, and pitchers - is consistent. The outlines of a drawing were applied in a firm engraved line, and the interior of the design was filled with short strokes applied by a sharp instrument. The background was covered with dots or with impressions of an annular punch (Illustration 110). As on glazed ceramic ware, we see here luxuriously flowering plant ornament which subordinates all animal forms to itself. At times the images seem altogether realistic, but as a whole they nevertheless have the look of ornamental motifs. The images are enclosed within medallions, seals, special zones, and ornaments corresponding to the structure of the object. The technique of the engraving, the dashed lines within the outline of the design, and the dotted background find analogies, as does the type of the plant ornament, on silver manufactures of the XIIIth-XIVth centuries in the eastern areas of the Eurasiatic steppe - in Siberia (Smirnov, Ya., I.,

1909, Illustration 176, 195, 196, 198-203, 207-209, 211, and 228). In the European areas of the Golden Horde, manufactures of gold and silver having such a style and technique as these are widespread: they are found in the Ukraine (Illustration 111, fig. 2), along the Volga (Smirnov, Ya. I., 1909, Illustration 197), and in the North Caucasus (Smirnov, Ya. I., 1909, Illustration 301, 302, 322; Fyodorov-Davydov, 1976, Illustration 129-133). The unity of the style, mannerisms, and technique of the ornament of these wrought articles, both in the ornament and in the forms, over the entire enormous extent of the Eurasian steppe in the XIIIth-XIVth centuries is beyond question. Hemispherical and basin-like silver bowls or silver dishes, decorated with a belt of plant ornament at the edge and with medallions having complex festooned outlines filled with plant ornament and frequently with stylized representations of lotus flowers, are typical. As an example we may cite the silver bowls with such decor from the North Caucasus, from the Kiev area, or at Ochakov (Ya. Smirnov, Illustration 220, 221, 245). In the decor of silver bowls one encounters ornaments known to us from glazed ceramic ware (see Fyodorov-Davydov, 1976, Illustration 133, 134). A considerable part of this sort of metallic manufactures has been found not in the steppe, but in the foothills of the Urals. It was hither that a great part of this steppe silver, made during the Mongol period of the XIIIth-XIVth centuries, took its course along ancient routes laid out as far back as the first millenium B.C. Here these products of wrought-work art have been particularly well preserved, side by side with more ancient silver manufactures.

In these wrought products one observes a combination of properly Golden Horde decor, apparently having its sources in the ornaments of the Far East, and motifs borrowed from Muslim art. In this regard a silver vessel of the XIVth century from the Belaya Reka barrows in the Kuban is characteristic (Smirnov, 1909, Illustration 325; Fyodorov-Davydov, 1976, Illustration 135-138): it bears ornament of engraved lines which are peculiar to the group of vessels we are describing (Illustration 112, fig. 1) and also an <u>à jour</u> lattice having a figure of a bird within it - a motif reproducing models from medieval Iranian wrought-work.

A group of vessels in gold and silver, having handles in the form of dolphins or dragons, sometimes tail in mouth, and almost always having delicate wire ornamentation on their crests, is interesting. The Far Eastern origin of these motifs is beyond question. They are encountered both in the Siberian steppes and in various regions of the steppes of Eastern Europe (Smirnov, Ya. I., 1909, Illustration 237, 238, 231). An example of such a vessel with well-preserved figures of dolphins (Illustration 111, fig. 1), is provided by a find of a gold bowl at New Sarai (Smirnov, 1909, Illustration 230; Grekov and Yakubovski, 1950, Illustration 52); a second example of a vessel with this sort of handle was found at Gashun-Uste in the former Stavropol <u>guberniya</u> (Smirnov, Ya. I., 1909, Illustration 232; Kramarovski, 1973). A small silver bowl with a handle in the form of a dragon's head holding a ring in its jaws was found at Uvek. Amethysts had been set in the eyes. On top of the head was a crest of wire. On the bottom a six-petalled rosette was represented, and on the sides oval medallions and figured escutcheons (Spitsyn, 1914, p. 126-127). In these manufactures the Far Eastern prototype had undergone pronounced

alterations; part of its details had been lost, and this had then been filled out with elements of properly Golden Horde decor.

Vessels of this sort offer a mingling together of Far Eastern and Muslim, Near Eastern, and Iranian traditions in wrought work, and in this connection, as M. R. Kramarovski has shown, the beginning of this intermixture may be assigned to the pre-Mongol period, the turn of the XIIth-XIIIth centuries, which is attested by one vessel with a handle in the shape of a dragon but bearing the date 617 a.H. or 1220-1221 A. D. (Kramarovski, 1975). As an example of such a mixed Golden Horde style, in wrought-work we may take a small silver bowl that was found in a mausoleum at Uvek. It constitutes a segment of a sphere with a flattened bottom upon the interior side of which there is represented, by engraving, a figure of a lion with its tail raised and ending in a plant shoot. On the side walls there are six medallions, in three of which birds are represented, and in the remaining ones plant ornament (Krotkov, 1915, p. 120-121).

Kramarovski has investigated Golden Horde art silver manufacture. He assigned the greater part of the vessels to the activity of craftsmen working in nomadic camps, i.e., the "hordes". Breaking down all of this material into groups corresponding to crafts centers, traditions, and schools, this scholar tracked down the distortion and re-working by Golden Horde masters of the models which were their prototypes - Chinese, Central Asiatic and Iranian, and Western European. In the precious metal work of the urban centers the influences of Muslim crafts schools predominated. Far Eastern motifs on vessels and belt fittings coincided more with the tastes of the nomad aristocracy, going back to the period of the first Chinghizids (Kramarovski, 1974). But it does not seem possible to set up a precise delimitation between the products of urban craftsmen and the products of nomadic "horde" crafts.

Jewelry Work

Jewelry manufactures found in Golden Horde settled areas and in the nomadic steppe of the XIIIth-XIVth centuries are analogous to Central Asiatic ones (Fyodorov-Davydov, 1976, p. 185-187). These latter are best of all represented in the so-called Bukhara hoard. The objects from that hoard are covered with extremely fine corded filigree and graining in such fashion that a most complicated arabesque is formed upon the surface. A. A. Spitsyn has described the technique of corded filigree and graining on the objects from the Bukhara hoard (Spitsyn, 1909, p. 74-77). This delicate decor is distinguished by a special airiness in which there is, as it were, no sharp delineation to the object, no definite surface that separates it from the surrounding space. In burials of nomad aristocrats in the Ulus Jochi we find many manufactures in this same style.

Among the jewelry manufactures of gold with complex ornament we find a crest to a headdress that was discovered in a barrow near the village of Proleika on the Volga in 1840. It had a socket for a plume, evidently of feathers, which was surrounded by six elaborate rosettes. Such ornaments of corded filigree and graining, complicated in structure like this find (which came in the XIXth century to be called

"the crown of Janibeg"), appear on plaques that are found in steppe barrows of the XIVth century. All of these articles are products of Golden Horde jewelry craftsmen who were working for the steppe aristocracy (Spitsyn, 1906 - 1, Illustration III, IV, p. 261-270; Spitsyn, 1906 - 2, Illustration 15, 61-68, p. 172-184).

These manufactures are well represented in hoards of the XIVth century from Volga Bolgaria. A luxurious brooch from the Juketau hoard in Tartary (Smolin, 1925) is entirely covered with lacework of fine à jour ornament. The artist strives to avoid any simple, sharp, and definite line separating the plaque from the surrounding medium - one might say that it "sprinkles" its gold on every hand: the impression is reinforced by the glitter of hundreds of exceedingly tiny balls soldered in place and fine wires of precious metal gleaming and playing with light at every turn and with every movement. The same may be said of the Juketau bracelet. A peculiarity of the technique of such bracelets was a curling golden strip soldered to the object upon a rib and constituting the basis for an epigraphic motif. Massive gold finger-rings of the XIIIth-XIVth centuries from Bolgar are analogous in technique (Smirnov and Yanina, 1967). Gold plaques which also bear graining and corded filigree of the same style have been found at the Selitryonnoye site as well (Spitsyn, 1906 - 2, p. 170, 171, Illustration 53, 54). Gold plaques with corded filigree executed in the same jewelry technique and artistic style have been found at Krym (Spitsyn, 1906 - 2, p. 172, Illustration 6). Good articles in the same style were found in the hoard from Neizats in the Crimea: a pair of silver clasps with an engraved pattern and a dotted background were associated here with articles executed in a technique of flattened corded filigree with pearl ornament and insets of precious stones. At this same place there were articles in the form of embossed metal sheets (Spitsyn, 1906 - 2, p. 266-268). One may probably assign among the products of Golden Horde jewely art the à jour plaques found at Mariupol and in the Kuban (Kondakov, 1906, p. 56, Illustration 30; p. 57, Illustration 33; p. 58, Illustration 35).

Elaborate gold à jour filigree articles with stone mountings, primarily of sardonyx, were found in a XIVth century hoard near Simferopol in 1967 (Simferopolski Klad), 1980). This hoard was very large and valuable, and it merits special attention. It belonged to some distinguished and wealthy aristocrat, perhaps to a Jochid. In the hoard were a talisman that bore the name of the Khan Kildibek (Malm, 1976; Münküyew, 1977), a silver vessel with magical inscriptions on both sides, a vessel with a lid and engraved ornament in the style described above as being a mixed Golden Horde wrought-work style, a spherical vessel with a lid, and an inkwell. In the hoard was a silver ladle-spoon with a figure of a seated man wearing a conical cap and holding to his lips a vessel, and a spoon with a figure of a bird. There were also a small spoon, a small strainer, and a round-bottomed goblet with a decantation lip.

Indian dinars of the Sultans of Delhi for the end of the XIIIth to the middle of the XIVth century were found in the hoard, also gold coin-like pendants such as are found in other hoards as well (for example Neizats in the Crimea V Spitsyn, 1906 - 1, p. 266-268, Illustration VIII). The other articles in the hoard are ornaments.

Particularly luxurious are the elements of a woman's headdress in gold made up of 16 plaques and a cap-piece encrusted with precious stones - pearls, sapphires, spinel, emeralds, amethysts, turquoise, jasper, and chrysoprase (Malm, 1980). A second cap-piece from the hoard is of silver and pearls. There are gold earrings in the form of a "question-mark" and gold plaques, in the form of a lotus flower decorated with corded filigree, to be sewn to apparel (Malm, 1977, p. 127-128). Such plaques are rather widely known within the Golden Horde (Fyodorov-Davydov, 1976, Illustration 145). In the Simferopol hoard there were also plaques of free outline, embossed and with corded filigree, with openings for attachment by sewing and with inscriptions invoking blessings. There are beads of sardonyx, sapphire, and rock-crystal, and gold button-pendants. There are several folding bracelets with niello and pierced filigree, decorated with a Persian inscription. The bracelets are analogous to the ones from Juketau (Malm, 1978). There are bracelets bent to shape from a rod round in section that has outline images of heads of animals at its ends. There are also compound bracelets made up of individual plaques of free outline that bear graining and niello with inserts of turquoise and spinel. In the hoard there were gold cases for paper amulets: texts of prayers and of passages from the Koran. These cases had loops for suspension. They were cylindrical in shape, with lids to one side, or else they were rectangular or figure-shaped. They were richly decorated with graining and corded filigree, and they had embossed ornament and mountings of turquoise, jasper, sardonyx, and pearl.

In the Simferopol hoard there was a particularly large group of belt ornaments. One gold complex for a belt consisted of a chape, plaques carrying a hook, two plaques with hooks to hang objects to, and 26 rectangular, free-outline, or heart-shaped plaques and clips. These ornaments had inserts of sardonyx and were decorated with gold <u>à jour</u> tablets bearing a representation of a grapevine. The gold plate was backed by a silver one to provide a background. There is a complex consisting of a belt-set with gold plaques and a chape decorated with embossed festooned rosettes bearing an image of a wading bird upon a niello background. Another belt-set, of silver, is ornamented with enamel work and bears images of an eagle, a dragon, and plant ornaments. Many belt ornaments in the Simferopol hoard are analogous to belt-sets from the barrows near the Cossack village of Belorechenskaya in the Kuban. They are perhaps products of Crimean jewelers. A similar <u>à jour</u> chape of two sheets soldered together and having a figured tip was found at Bolgar.

In studying wrought-work and jewelry in the Golden Horde one cannot overlook Eastern European influences upon them. These are sensed both in the belt ornaments from the barrows at Belorechenskaya and in those of the Simferopol hoard. The place where these influences might exercise the strongest effect upon Golden Horde crafts was the Crimea and the North Caucasus. There was a good quantity of Italian articles in the Golden Horde, especially in the North Caucasus, and in the Crimea in immediate proximity to the Genoese and Venetian colonies. One cannot understand the artistic culture of the Ulus Jochi without taking these imported articles into account; Western European and Balkan medieval art exercised substantial influence on the form taken by the art of the Golden Horde. M. G. Kramarovski has tracked down

this influence in the field of wrought-work.

Linkages between Russian and Golden Horde art crafts are being established (Yakobson, 1971, Kramarovski, 1974, p. 21). Some influences in the other direction, on the part of Golden Horde wrought-work and upon the crafts of the Balkans and of medieval Russia, are also being tracked down. There was borrowing both of individual motifs and of stylistic peculiarities.

CHAPTER X

THE LIFE OF THE CITY-DWELLERS IN WAR AND AT PEACE, AND THEIR RELIGION

In the chapters that have gone before we have already listed the manufactures of Golden Horde craftsmen that were supplied to Golden Horde city-dwellers. One should remark that their way of living was replete with material things and that this found reflection in the abundance of objects that have been preserved in the cultural stratum of the Golden Horde cities.

Arms

At the time of the flowering and the political unity of the Golden Horde the roads were safe, city-dwellers did not have to fortify their towns, and there was little feuding within the country; and yet at the same time, as in every medieval state, the life of the city-dweller confronted the need to be constantly prepared to defend self and family. Dangers became accentuated in times of disturbance. People were armed, as we have seen, with steel swords and sabers, with kinzhal daggers and lances, with bows and arrows including whistling arrows (Veselovski, 1909, p. 156-161; Grekov and Yakubovski, 1950, Illustration 4; Puteshestviya, 1957, p. 144), and with maces and special battle-axes. They had defensive armor, plate and mail, and helmets with mail aventails or tippets. Among the weaponry of Golden Horde armies there was also a primitive artillery, as well as catapults for casting stones and vessels full of incendiary substances and petroleum, the so-called "Greek fire" (Puteshestviya, 1957, p. 53). At the siege of Moscow in 1382 the Tatars used battering rams and scaling ladders. They apparently also had various sorts of trebuchets, arbalests, and ballistas (Shkolyar, 1980, p. 310).

Probably many of the forms of armament among city-dwellers and nomads coincided. Plano Carpini describes a spear with a hook for fetching warriors from the saddle (Puteshestviya, 1957, p. 51). Such a spearhead was found at the Tsarevo site. We know little of how recruitment into the army was organized, or of military life and army structure - troops consisted mostly of Mongol nomads and of the subjugated peoples of the Desht-i Kipchak (Grekov and Yakubovski, 1950, p. 339 ff.). Detachments of city-dwellers held places in the armies of the Golden Horde khans - for example, the detachments of Kaffa, Krym, Azak, and Bolgar in the armies of Mamai and Toktamysh (Tiesenhausen, 1941, p. 156, 164). But the forms under which these city-dwellers participated in the armies of the khans are not known. The information from the sources, particularly that of the travellers of the XIIIth century, deals with the military life and the arms only of the steppe nomads.

Home life

To light the house oil lamps both ceramic and metallic, and also candles, were used. Ceramic and bronze candlesticks are known, but also a marble one, richly decorated and probably from the house of a wealthy man (Grekov and Yakubovski, 1950, Illustration 32). Wealthy houses and public buildings were lighted by hanging glass lamps and by lustres to which several lamps were fastened.

Rooms were filled with ceramic and glass dishware; in wealthy houses there was among this a great deal of expensive glazed ware, sometimes imported porcelain. People slept and ate on the sufas. They spread these with feltings. The hot kan retained warmth for a long time and a part of the sufa remained warm. There were also braziers.

Food was prepared on the spot - even in wealthy houses and villas no separate kitchens have been identified. There were only bakeries - separate accommodations for tandyrs. In poor and medium houses, and even in a well-to-do house at the Selitryonnoye site, sleeping quarters with sufas lay side by side with ovens and tandyrs. In the summers food was prepared out of doors, but few separately standing kans and tandyrs have been discovered outside houses. Perhaps in the summer-time food was prepared outdoors over open fires.

Sometimes, but not always even in wealthy houses, a washing sump - a toshna - was installed in the floor. Wooden furniture has not been preserved, and we are unacquainted with it. The sources speak of carved wooden chests (Tisenhausen, 1884, p. 285). To judge by the small floor area and the limited extent of wall space not taken up by sufas, there was almost no wall furniture at all in the living quarters. Coverings of rushes were strewn on the floors.

Bronze and iron fittings of doors and chests, often richly decorated and with inscriptions, have been preserved at wealthy houses. Massive rings of cast bronze were hung upon the doors (Grekov and Yakubovski, 1950, Illustration 29, 30).

Many locks were used in living arrangements - from large iron ones to small bronze ones, securing chests and caskets.

The planning and size of houses reflects very well the social status of the inmates. A wealthy way of life was signalized primarily by the presence of rich objects, particularly imported ones. The living quarters even of wealthy houses are not distinguished, by any sort of comforts or by specially large dimensions, from the above-ground houses of the middle classes. In wealthy houses a large area was occupied by empty premises, not to be lived in, but intended for ceremonies, meetings, and receptions.

Ordinarily houses did not have conduits bringing water in from outside. In a wealthy house at the Selitryonnoye site (dig XI) there were brought to light a trench and end-fitted sections of pipe leading water off from a room with a pool. Thus far, with this single exception, no special bathing rooms have been discovered in Golden Horde houses, even wealthy ones. People washed in separately standing

bath-houses, public and domestic.

Houses did not have integral cellars. Sometimes one finds pits of no great size in the floors. In a large house at the Selitryonnoye site (dig VIII) there is a special store room with pits for the safe-keeping of foodstuffs. Underground storage premises - dugouts containing wooden kegs - that lie separately beside a house are familiar.

There was an effort to keep the surfaces of courtyards adjoining the houses clean and dry - for example, water outlet ditches were dug so that there should be no damp or puddles around the house. Yurts were set up in the courtyards.

Children played at knucklebones, using those of the ram which were sometimes loaded with lead - a game preserved until recently among Russians, in Central Asia, and in the Caucasus. Knucklebones are often found in heaps (Tereshchenko, 1854, p. 92). Complexes of 22 knucklebones have been found twice. A game was also played that consisted in piling up counters on a complicated figure, a "Babylon" drawn on a board, a brick (Fyodorov-Davydov, 1964 - 2, Illustration 14, fig. 4), or the facing of a sufa. Such a game was also preserved in the Caucasus, and among Arab peoples until the recent past. They enjoyed whistles, toys in the form of animal figures. On the whole the life of children is faintly reflected in the archeological material. Small children were kept clean, as is attested by the rather frequent findings of those hygienic adjuncts to cradles, the ceramic and glass tuvaks.

The walls of wealthy houses were often decorated with stuccoing, sometimes painted. Stucco was drawn and painted upon; spoiled and worn-out stucco was plastered over with new layers. Drawing was also done on bone - we know of the finding of an ox-bone with an inscription and drawing in India ink (Fyodorov-Davydov and Vainer, 1963). Wax and mercury were used, apparently to combat skin diseases. Bits of wax, or wax in glass vessels, are sometimes found in the culture stratum of Golden Horde houses.

Fountains were installed in the gardens of wealthy villas - bronze tubes with lions' heads have survived from such fountains (Yakubovski, 1932, p. 49). Gardens were ornamented with stone vases on pedestals (Illustration 95, fig. 10).

Domestic Animals

They are identified by remains of bones in the culture stratum of Golden Horde cities.

The make-up of bone finds is as follows:

	Sites			
Kind of Animal	Selitryonnoye (1969)	Tsarevo (1959-1963)	Vodyanskoye (1968-1970)	Madjar (1907)
Major horned cattle	48 (9.2%)	8916 (36.6%)	3070 (45.8%)	193 (14.9%)
Minor horned cattle	407 (77.8%)	11783 (48.4%)	2783 (41.5%)	992 (76.4%)
Horse	60 (11.5%)	3134 (12.8%)	720 (10.8%)	97 (7.5%)
Camel	1 (0.2%)	79 (0.3%)	7 (0.1%)	----
Swine	----	3 (0.0%)	36 (0.5%)	----
Dog	6 (1.1%)	412 (1.7%)	46 (0.7%)	8 (0.6%)
Cat	----	4 (0.0%)	14 (0.2%)	----
Deer, gazelle, antelope	----	4 (0.0%)	----	----
Hare	1 (0.2%)	33 (0.2%)	----	----
Fox	----	6 (0.0%)	----	----
Birds	----	----.	30 (0.4%)	8 (0.6%)

It is interesting that the composition of the animal bones at each city is different.

Golden Horde cattle are distinguished from the Russian by larger size. As a result of the sway of Islam there are practically no swine. A comparatively large number of oxen among the major horned cattle is to be explained by their use as draught animals (Tsalkin, 1967). The horse was used as a work animal for traction. Straps with bosses or conchas, bits, and stirrups were made for horse harness. Horses were shod. Saddles had tall wooden saddle-bows and were faced with skin and fitted with girth-buckles. Special stalls for cattle have not been identified at Golden Horde cities. Cows and minor horned cattle were hung with large bronze bells when in pasture.

The sources tell us very little about the food of city-dwellers. We know of their plant food only through remains of grain (rye, wheat), seeds, berries, walnuts and hazelnuts, acorns, almonds, raisins, prunes, plums, peaches, pistache nuts, cloves, pepper, beans, and coffee (these seeds and stones were found during A. V. Tereshchenko's excavations at the Tsarevo site, but there is no assurance of their having been identified correctly). Grapes and melons were used as food (an accumulation of grape seeds was found in a pit at one of the villas on the Selitryonnoye site; at another, melon seeds). Meat foodstuffs are identified by the bones. To judge by the dismemberment of the

animals, it was not only the meat of major and minor horned cattle but also that of horses and camels that was used as food (Tiesenhausen, 1884, p. 303). Game secured by hunting, and also eggs (of domestic fowl), were used as food (Tereshchenko, 1854, p. 91; Ballod, 1923 - 1, p. 103); likewise fish.

Nomads and city-dwellers had an intoxicating drink, a beer made of oats and buckwheat, the so-call buza (Tiesenhausen, 1884, p. 284; Barbaro and Contarini, 1971, p. 142, 157).

Ibn-Battuta has a little something to say about the preparation of food and serving at table. He writes that at Sarai there was set forth after social gatherings a vessel shaped like a "cradle" on four legs, covered with a layer of leaves of the date palm. On this were laid pastries, the roast head of a sheep, four cakes (evidently baked) that had been kneaded in butter and stuffed with "sabunie" sweetmeats and covered with pieces of halvá, and also a tray of preserves. All of this was covered with a cotton cloth. In addition he saw at Sarai pies of puff-paste with chopped meat, baked along with almonds, walnuts, pistache nuts, onion, and other condiments (Tiesenhausen, 1884, p. 314).

Festivals

Ibn-Battuta has left us a description of a holiday and festival at Sarai. On Friday the 28th day of Ramadan the khan rode out in the morning at the head of a large armed force, with his consorts in carts and accompanied by his suite. His daughter rode with him, a crown on her head. His sons rode with the troops. Lawmen, sheikhs, kadis, imams, and sherifs, with the chief kadi at their head, had ridden out earlier. Kettledrums were beaten and banners were borne aloft. The chief kadi delivered a sermon. The khan, his sons, his heirs, the principal consort, and the people of the family seated themselves in kushoks - wooden belvederes or tower-pergolas. Benches were provided for the emirs and the royal princes, and they sat beside these kushoks. A shooting competition commenced. After an hour robes were brought, and the emirs were clothed with these. Upon donning a robe an emir would approach the khan's kushok, and bow. They would bring him a saddled and bridled horse and each emir, after kissing his horse before the khan, would lead it to his place. Probably this was the ceremony of delivering the khan's gifts to his emirs. After this the holiday throng of emirs passed before the khan and the consorts, who continued to sit in their richly decorated wagons, and it entered an enormous marquee set upon four stands covered with sheets of silver gilt and with gilded capitals. The marquee was spread with carpets. Here all seated themselves around the khan's throne, made of carved wood covered with sheets of silver gilt and with legs also of the same. A broad cushion was set upon the throne on a carpet, and here the khan and his principal consort sat; beside them, the daughter and two consorts. To the right of the throne was the seat of one son of the heir, to the left that of the other. To the right and left were seats for the royal princes and the emirs. The feasting started. Food was brought in on golden dishes set on small silver tables. The meat was roast horse's flesh and mutton. The carvers came in wearing silken clothing, bearing a silken napkin, and carrying their knives in sheathes at their

belts. Before each table stood its own carver. Salt broken down in water was brought forward, on small dishes of gold or silver. After this, golden or silver drinking vessels were produced. Mead was the principal drink. The khan and the consorts were served mead by the daughter and son. The heir was served by the royal princes and the emirs. All this went on amid bowing. Songs were sung. Opposite the mosque another marquee was erected for the kadi, the katibs, the sherifs, and the sheikhs. In this one there was feasting arranged just as in the khan's marquee. Leathern skins of koumyss were handed out among the populace. After this there was community prayer in the mosque. Then the khan and his suite returned to the marquee, where the feasting continued until evening prayer (Tiesenhausen, 1884, p. 299-301). We may note that meat was served on small silver tables at feasts in Khorezm as well (Tiesenhausen, 1884, p. 311).

Dress, Ornament, Toilet Articles

In the Golden Horde, both among the nomads and among the city-dwellers, there were a great many imported textiles - silks, brocades, cottons - and also furs from northern countries (Puteshestviya, 1957, p. 98). The clothing of XIIIth century nomads is well described by the travellers. The clothing of XIVth century city-dwellers is scarcely known at all from written sources. From literary sources we know of imported silk textiles (Tiesenhausen, 1884, p. 285, 292), and they have been found in many burials at the cemeteries of the Golden Horde cities. In one of the graves in the burying ground by the mosque at the Vodyanskoye site a silken cloth on a linen warp, perhaps Iranian work, was found (Yegorov and Fyodorov-Davydov, 1976, p. 142, 143). During Tereshchenko's excavations there were found in graves at the Tsarevo site very dark blue silk and yellow brocade embroidered with threads of gold. Gold threads from brocade cloth were found in a wealthy house at a villa in the eastern suburb of the Tsarevo site (Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, p. 157; see also Ballod, 1923 - 1, p. 77).

In a mausoleum at Uvek there was found in a rich grave of a woman a patterned silk gown with long narrow sleeves. It was ornamented with buttons and loops of braided black silk cord. The buttons were spliced knots of the same cord. On top of this gown was another - ample, reaching the heels, with broad sleeves, and with silver textile patterns set off by ribbon trim (Krotkov, 1915, p. 129). Braided ornaments and what were apparently cord buttons have been found at the Tsarevo and Selitryonnoye sites (Fyodorov-Davydov, Vainer, and Guseva, 1974, Illustration II, fig. 28; Fyodorov-Davydov, 1981, Illustration 12, fig. 3, 4). At Uvek there was also found a silken kaftan cut and tailored snugly to the body (Grekov and Yabubovski, 1950, p. 174, Illustration 18). The kaftan had short skirts, lacked sleeves, and buttoned up to the collar, which was low.

Some sorts of clothing were common both to nomads and to city-dwellers, to judge by archeological materials - for example the bokka.

This headdress of married women (the bokka) is described by early writers who had seen the Mongols. Birchbark cylinders from bokkas have been found in nomad burials surrounding Golden Horde cities and in

these cities themselves. There are cylinders coiled out of bronze sheets that may also be parts of bokkas. In the Simferopol hoard there was a silver ornament to a headdress also apparently constituting a variety of bokka. Such a headdress was found in the Uvek mausoleum. It consisted of a red silk cap with winglike attachments at the sides. The cap was tied at the occiput with ribbons knotted in bows. A hollow cylinder rose above the cap; it was wound about with silk cloth carrying silver plaques. Above this a gilded wooden tablet wound about with silk bearing silver wire ornamentation was attached.

Rubruck describes the bokka as follows: "They (the Tatar women) wear on the head an ornament called the bokka, made of bark or of another material they may find to be even lighter, and this ornament is round and so large one can get two hands around it; it is a cubit or more in height, and at the top it is rectangular like the capital of a column. They cover this bokka with expensive silk cloth; the bokka is empty inside; and at the center, above the capital or the rectangle we have mentioned, they set a sprig of straws, feathers, or slender twigs again a cubit or more in height. And they decorate this sprig, at its top, with peacocks' feathers; and round about below, with small feathers from the tail of the drake and also with precious stones. Rich ladies set this ornament atop their heads, firmly tying it on with a fur cap" (Puteshestviya, 1957, p.100). Leather footwear and leather clothing are known. Silk bootees with long legs and silk strings were also found in the Uvek mausoleum (Krotkov, 1915, p. 129).

Here is a description of the appearance and apparel of the khan Batu: "A scanty beard, a large face of yellow color; the hair combed behind either ear; at one ear a golden ring with an octagonal precious stone; dressed in a silk kaftan, on his head a kolpak. A gold belt with precious stones against green Bolgar leather; on both feet, boots of red shagreen. He was not girt with a sword, but at his sash were curling black horns sprinkled with gold" (Tiesenhausen, 1884, p. 193).

Among womens', and sometimes mens', ornaments are earrings, bracelets, appliqués sewn to clothing, and plaques clinched to textiles and straps. We know of rank-and-file belt fittings of simple bronze plaques and rich or super-rich ones of gold set with stones, such as were found in the Simferopol hoard and in the barrows outside Belorechenskaya. Belts were of old a symbol of authority and of belonging to an élite.

There are indications that the khan Janibez, issued orders that a turban and a "fari-djiyat", a broad, sober cloak, be worn (Amin al-Kholi, 1962, p. 24).

Ibn-Battuta wrote that at Madjar they wore overcoats of sheepskin, and a cap called "kulokh". Women wore a little cap set with stones and peacock feathers (Tiesenhausen, 1884, p. 289).

Wooden combs were used (Krotkov, 1915, p. 129). Bone combs are not encountered. Mirrors were widely used in the household. In nomad burials on the steppes encircling the Golden Horde cities mirrors are often found in women's graves. This article was associated with the life of women. As among many nations, mirrors performed some sort of

magical functions.

Tweezers of bone and wood, probably for the toilet, are found. Small glass vessels for cosmetics are encountered.

In a wealthy house on the Selitryonnoye site wooden spines or ribs were found that probably came from a parade umbrella (Illustration 94, fig. 1, 2), such as served as a symbol of authority and distinction among many oriental peoples including the Mongols. They were described by travellers of the XIIIth century. (Puteshestviya, 1957, p. 71, 76).

Amulets

Golden Horde city-dwellers believed in the saving and preserving power of amulets, something that was widespread in the Muslim East. Amulets - inscriptions on paper - were put in the mount of a finger-ring or in a small special box - of simple bronze or of gold elaborately decorated, like for example the boxes of the Simferopol hoard. Sometimes a miniature Koran, which was also worn as an amulet, might be placed in such a box.

Another sort of amulet consisted of bronze or gold tablets with inscriptions (Illustration 108, fig. 5). One such amulet of bronze was found at the Tsarevo site. It took the form of a rectangular tablet with a suspension loop. On each side of it some illegible symbols had been inscribed with a graver - stylized Arabic letters and four lines of a magical inscription in Arabic: "Prophetical contemplation of a star", or "Prophetical contemplation has made a prediction". Seven symbols, twice repeated in two lines, appeared upon the amulet; they apparently constituted magical Arabic symbols, the so-called "Seba K'khuatim": seven symbols associated with seven Arabic letters in seven verses of the first sura of the Koran, with seven out of 99 qualities of Allah, with seven angels, with seven demons, with the seven days of the week, and with the seven heavenly bodies. The amulet is an astral one. On it there is also a square with nine checkerboard subdivisions containing obscure marks - perhaps one of the variants of the "magic square" that had lost its numerical meaning (Fyodorov-Davydov, 1974 - 1). Magic squares drawn with India ink on vessels and knife-handles are encountered in the Golden Horde cities (Poluboyarinova, 1980, p. 200, Illustration 9, fig. 7). Apparently they too possessed magical power, as in many other countries and among many peoples. There is a magic square on a handle from the Selitryonnoye site with the letters having a numberical value under the "abdjad" system.

In the Golden Horde cities one encounters primitive figures of little men cut out of sheet bronze or iron, sometimes with characteristics of the male sex (Illustration 103, fig. 11, 14; Spitsyn, 1914, Illustration 23; Fyodorov-Davydov, 1964 - 2, Illustration 14, fig. 2; Fyodorov-Davydov, 1966 - 2, Illustration 9, fig. 4; Fyodorov-Davydov, 1968, p. 123; Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, Illustration II, fig. 25; Mukhamadiyev and Fyodorov-Davydov, 1970, Illustration 7, fig. 1; Fyodorov-Davydov, Vainer, and Guseva, 1974, Illustration II, fig. 1-5; Illustration V, fig. 7). They are also found in nomad burials on the Golden Horde steppe. These are probably "ongons", analogous to the "onogas" which

were in early times and until the recent past the repository of the soul and the spirit among many Mongol peoples and tribes of Siberia. These bronze figures are particularly similar to the Buryat "iltkhans", little figures fastened to the chest as an anthropomorphic "ongon" and functioning as an image of one of man's souls (Fyodorov-Davydov, 1965 - 1, p. 275-277). In nomad burials of the XIVth century the little figures are also found on the chests of skeletons. Perhaps the little bronze idols are domestic or family godlings, lares et penates, the spirit of the heart and the soul of the ancestor. Possibly the small bronze idols are connected with the idols of felt and textiles which the nomadic Mongols had (Grekov and Yakubovski, 1950, p. 161-162; Puteshestviya, 1957, p. 28). It was probably of these bronze idols that Mahmud ibn Ali was writing in his book "Nekhdj al-Faradis", calling them "san", a word used of false gods to pray to whom is a sin (Borygy tatar édébiyati, p. 239-240).

Religion

In the XIIIth century the Mongol aristocracy of the Ulus Jochi was shamanist, and bore itself pretty tolerantly both toward Christianity and toward Islam. Khan Sartuk, son of Khan Batu, was a Christian of the Nestorian sect along with his circle - he was educated among the Syrians (Armyanskiye istoriki o Mongolakh, 1962, p. 110). Berke accepted Islam while still a young man (Tiesenhausen, 1941, p. 16-17). As the first Muslim khan, Berke won the praise of the Muslim writers who were his contemporaries. It is reported that he accepted Islam from a pupil of the Central Asiatic sheikh Nadjm-ad-Din Kubra who lived at Bukhara (Tiesenhausen, 1884, p. 379). As a defender of Islam in the Chinghizid empire Berke struck out strongly against Hülagü after the latter's taking of Bagdad and execution of the Caliph (Voskresenski and Smirnov, 1966). The Islamization of the Horde under Berke was shallow and shaky. The lean-witted Tuda-Mengu exhibited an inclination toward the Muslim sheikhs (Tiesenhausen, 1884, p. 105, 106, 362). Tokta was a shamanist; he patronized sorcerers and lamas (Tiesenhausen, 1884, p. 174). The Islamization of the Golden Horde in the XIVth century under Özbeg was more solid and profound. The great public mosque at Bolgar was rebuilt. New mosques and other Muslim buildings were constructed. The mosque at the Vodyanskoye site, described above, falls to the middle of the XIVth century. A building of the XIVth century, like a medrese in plan, has been preserved at Old Krym. A large mosque of the XIVth century has been brought to light at Old Orkhei in Moldavia. A small mosque of the XIVth century at Verkhni Djulat in the North Caucasus and one close by the so-called Tatartup minaret in the same district have been studied. Mosques were set up in large marquees in the nomad camp-headquarter "hordes".

On the left wing of the Ulus Jochi Islamization was intensively carried out by Erzen (ruled 1320-1345), with building of mosques, khanako, and medreses in cities on the lower Syr-Darya - Sairan, Djende, and others (Tiesenhausen, 1941, p. 129). From yarlyks of the khans and from other sources we know of the presence of mullas, muftis, sufis, kadis, sheikhs, talibs, khatibs, and fakirs within the Golden Horde (Tiesenhausen, 1884, p. 280, 285, 314). The spread of Islam in the Golden Horde issued from two centers - Volga Bolgaria, and Central Asia. At Krym there were sheikhs from Central Asia and from Iraq

(Borozdin, 1927, p. 18).

In this way Islam became the chief religion in the Ulus Jochi, crushing all others. It was preponderantly Islam of the Khanifite sect (Tiesenhausen, 1884, p. 281; Amin al-Kholi, 1962, p. 28), introduced from Central Asia as far back as Berke. But the Shafiite sect was also widespread. Ibn-Battuta met Khanifite kadis and Shafiite kadis at Krym (Tiesenhausen, 1884, p. 281, 306). There were also Malikites (Tiesenhausen, 1884, p. 306), but they were apparently persecuted. Ibn-Battuta reports that Özbeg and his viceroy at Khorezm, Kutlug-Timur who was one of the most influential magnates of that time, were Sunnis, although there was in the country and pareticularly at Khorezm an itizal, that is to say a schism (Tiesenhausen, 1884, p. 310).

Özbeg ordered books on Muslim law from Egypt (Amin al-Kholi, 1962, p. 28). At Sarai there were many redoubtable men of learning, experts in the fitkha of the Khanifite and Shafiite sects. There were monasteries of sufis.

Despite the sway of Islam, Christianity existed in the Golden Horde. Its adherents were the Russian population, which had its metropolitan at Sarai (Poluboyarinova, 1978), but also western European fugitives and the Armenians, who had churches and monasteries, particularly numerous in the Crimea (Tiesenhausen, 1884, p. 280). An Armenian monastery of the XIVth century has been preserved outside Old Krym. The Alans and Kipchaks were partially Christianized (Tiesenhausen, 1884, p. 279). There was apparently a Christian church at Madjar (Volkova, 1972, p. 58). A Christian church coexisted with a mosque at Verkhni Djulat (Miloradovich, 1963 - 2).

Despite Islam, woman enjoyed greater regard and legal status in the Golden Horde than in other Muslim countries. This is explained by survivals of the nomad way of life and of Mongol law, the yasa, which was operative side by side with the shariat in the Golden Horde during the XIVth century. Al-Omari wrote that "the dwellers in this state do not follow the ordinances of the caliphs as those others (of Iraq) do, and the women take part with them (the men) in the administration..." Ibn-Battuta wrote to the same effect. According to his words women did not conceal their faces. Charters read to the effect that "the minds of the khatuns (consorts) and the emirs were agreed upon this" (Tiesenhausen, 1884, p. 229, 288-289). Coins were struck in the name of the khansha Tulunbek-khanum. Yarlyks of the khansha Taidula, the wife of Janibez, are known; they are addressed to metropolitans.

The old Mongol law, the yasa, also continued in effect in certain other fields of the juridical and domestic life of the Golden Horde cities, and especially in the life of the steppe.

Necropoleis

Old beliefs of heathen character, particularly certain features of burial rites, were preserved in the way of life of Golden Horde city-dwellers. In the nomad steppe, burials were according to the old barrow rites, primarily the Pecheneg-Torches and Polovtsian ones, supplying the deceased with the customary inventory. In the cities the

inculcation of Muslim ways was considerably more far-reaching, but heathen survivals persisted there as well. To date about 500 burials have been excavated at sites of the lower Volga. A large Muslim necropolis of the end of the XIVth century has been bared in the mosque area at the Vodyanskoye site (Yegorov and Fyodorov-Davydov, 1976, p. 139-158; at the Tsarevo site several graves have been excavated in an urban Muslim necropolis beside a lake in the western suburbs; a large burying-ground has been discovered at Khan-Tyube; and finally, a large (around 400 graves) Muslim burying-ground of the end of the XIVth and beginning of the XVth centuries has been excavated in the neighborhood of the villa with the large house (dig VIII) at the Selitryonnoye site.

Yablonski has drawn up a classification of the burial rite and burial installations of Golden Horde Muslim necropoleis. These show first of all the degree of Islamization of the urban population. Islam called for objects not to be placed in the grave upon burial, and for the observance of kybla: that is, such a position of the person buried that his face shall be turned toward Mecca. Yablonski's investigations have shown that the first requisite is violated in 10% of burials at Golden Horde cities, and the second in 35%.

Features of burial ceremonial might be most varied. Memorials might be in the form of brick or stone, or brick-plus-stone, pavings and enclosures, or in the form of elongated, stepped brick pyramids. There are horizontally lying stone memorials in the form of slabs, sometimes shaped to the configuration of the coffin; vertical steles, sometimes with tops in the shape of headgear, or in the shape of a mausoleum or a minaret. For the cities of the lower Volga such stone memorials are not characteristic; they are usually found in the Crimea, where they provide interesting analogies to medieval gravestones of Central Asia. Vertical steles with Arabic inscriptions are characteristic for the Crimea; with Turkish inscriptions, for Volga Bolgaria. Grave steles with Arabic-language inscriptions have also been found at Madjar (Lavrov, 1966, p. 116-127).

The construction of burial chambers varies - one encounters crypts of burned or adobe bricks with a covering formed by setting each upward course of brick overhanging the one below (the "false vault"); crypts with a flat-arched vault having a covering of bricks laid flat or on edge upon brick or earthen shoulders. One finds graves with linings, sometimes covered with brickwork or with wooden logs. Crypts have been brought to light that have the form of wooden frameworks, graves with wooden coverings upon earthen shoulders. Brick crypts are characteristic for the cities of the lower Volga; there are none in Volga Bolgaria. Golden Horde brick crypts have close analogies in Khorezm and Central Asia (Yablonski, 1975). One should remark that there is a great variety of different combinations of features characterizing the burial ritual - as regards the topographical positioning of the deceased in the tomb, the form of the above-ground structure, the form of the grave and burial chamber or crypt, the orientation of the head of the deceased, the way of laying out the body, and thg like. On this account statistically constant combinations of these features have been segregated out in such fashion that they might serve as models, so to speak, of burial ritual as it was carried out in practice and with various deviations. Thus at the

burial ground in the mosque district on the Vodyanskoye site there were the following types of burials; 1. - in brick crypts, beneath stone and brick above-ground structures, in mausoleums and on the terrain of the mosque; 2. - in wooden crypt-framework without above-ground structure, located in a mausoleum; 3. - in graves with paving beneath a memorial; 4. - in graves with or without a wooden covering, without memorial, in the run-of-the-mill part of the burying ground. In this connection kybla was adhered to mainly in burials of types 1 and 2. It is primarily people advanced in years - mainly men - that are found in crypts; apparently distinguished sheikhs. Mongols, too, were more frequently buried in crypts and in graves with memorials; the privileged stratum of the cities included a large share of representatives of people of Mongol appearance. In the poorest graves of type 4 there is the greatest proportion of deviations from the Muslim canon. In burials of the middle-class and poor population there are few Mongols, and a great commixture as regards anthropological type is noted.

In both of the large Golden Horde necropoleis a sharp social differentation among burials comes palpably to the fore - burials in rich crypts of brick with memorials within mausoleums, primarily those of the Mongol upper crust of the city-dwellers (making up 7.4% of the total of graves studied), and burials in simple pits without covering or memorial in the plain part of the cemeteries, those of the city plebs of mixed, primarily European appearance as regards anthropological type (these make up 56% of all burials studied). The remaining graves are those of intermediary strata of the population of the cities.

Upon comparing the Vodyanskoye and Selitryonnoye necropoleis Yablonski came to the conclusion that at Sarai (the Selitryonnoye site) the élite were a more enclosed group and preserved features of Mongolian origin to a greater degree than in the smaller and more ordinary city (Yablonski, 1978 - 1; Yablonski, 1979; Yablonski, 1980 - 2).

In burial rituals there were preserved survivals from past Bolgar and nomadic (Pecheneg-Torches-Polovtsian) practices: in departures from the kybla, in the installation of wooden coverings upon shoulders, in the placing in graves of objects characteristic for nomad burials, a field where Islam had as yet scarcely penetrated at all as of the XIVth century. Thus at the Tsarevo site we are acquainted with graves that violate kybla in orientation and that have a typically nomad inventory - mirrors, scissors, plaques, beads, earrings, fire-steels, stirrups, bits, quivers. In burials at the Uvek mausoleum there are again many articles - clothing, a bokka, coin purses, vessels, a spoon, combs, a mirror, an earring, bracelets, finger-rings, gold tablets, plaques, and clasps, a box-amulet, a medallion, beads, a chain (Krotkov, 1915). In another rich burial on the Uvek there were scissors, a gold appliqué for a strap, a coin-like gold amulet, a small plaque, an earring, a corded-filigree medallion of gold, beads, a bronze chain, an iron ring, a mirror, brocade cloth with a depiction of an animal, birch bark, a bokka (Ballod, 1923 - 1, Illustration 9, p. 77). In 1975 a sardonyx mount for a finger-ring was found in a crypt at a Selitryonnoye mausoleum.

There are burials on the side and with the legs drawn up - mostly women and children. This had been known from as far back as the Khazars on the Volga, on the Don, among the nomads, and among the Mordvins. Perhaps there was a custom of tying up the legs of the deceased - a feature of pre-Muslim ritual. In a certain proportion of the burials the deceased was placed resting upon his right side, and to keep him that way a brick was placed under his left side. Perhaps this was also a relique from pre-Muslim usages.

In two graves at Golden Horde necropoleis, burials of a ram instead of a human being have been found. This reflects an ancient concept of the ram as substituting for the human soul, and of a connection of the ram's soul with man, known from the ethnography of Central Asia (Yegorov and Fyodorov-Davydov, 1976, Illustration 46).

Bones of horses, cows, and sheep are sometimes found in burials (Gorodtsov, 1911, p. 190-205). In Muslim urban cemeteries the custom of "Charon's obol" - one coin, or several coins, placed beside the deceased, sometimes in the mouth or next the head, sometimes elsewhere - did appear, rare though this was. Very small coin hoards were found in a subterranean crypt at the Selitryonnoye site and in one of the graves at a Muslim necropolis on the same site, and also at Madjar (Gorodtsov, 1911, p. 189; Mukhamadiyev and Fyodorov-Davydov, 1972).

Mausoleums

A classification of Golden Horde mausoleums according to their plan outlines has been proposed by Ya. M. Paromov. The first group of mausoleums is made up of the ones square in plan that are encountered in Volga Bolgaria, on the Ural, and at Madjar. The main recess was cubical, passing into octagonal or sometimes dodecahedral through the use of drums. The mausoleum was usually capped by a tent-like or cupola covering. In Volga Bolgaria such mausoleums were made of stone; on the southern Ural and along the Volga, of burned brick - Baitak-Tam (Kastanye, 1910, p. 91-92; Kastanye, 1911, p. 61, 62, Illustration 68). Along the Volga we are acquainted only with the plan outlines of mausoleums of this group - mausoleum No. 1 at the Vodyanskoye site (Yegorov, 1980), mausoleums No. 1 and 2 at the Selitryonnoye site (dig VIII - 1977) - all three without foundation structure, - and the mausoleums at the Mechetnoye site (Ballod, 1923 - 1, p. 23-27). The floors of this and other groups of mausoleums were generally paved with burned bricks. At Madjar a mausoleum of this type had three coverings - a lower hemispherical one beneath the floor, and above the crypt, and two upper ones, tented-conical (Rtveladze, 1973, p. 273-274, Illustration 1, fig. 8, 9).

Dimensions of mausoleums of the first group (in m.):

Designation	Entry faces:	Inside	Outside
"Black Chamber" at Bolgar	NW	6 x 6	10 x 10
No.1 at Vodyanskoye site	--	5 x 4.9	7 x 6.9
No.1 at Selitryonnoye site	--	4 x 4.2	5.56 x 5.78
No.2 at Selitryonnoye site	--	3.67 x 3.67	5 x 5
At Mechetnoye site	--	5.86 x 5.33	9.4 x 8.4

Mausoleums of the second group consist of those square in plan with a portal in the form of a vestibule having two tall pylons to the sides of the entrance. The volumetric composition of these mausoleums was apparently comparable with that of mausoleums of group 1. Mausoleums of group 2 in the North Caucasus, in the Pyatigorye-Yesentuk district, are built in some cases of stone, in others of burned brick cemented with lime mortar and set upon a stone socle (Polimpsestova and Runich, 1974; Rtveladze, 1969). A mausoleum of this group has been brought to light in the Lower Volga - No. 4 at the Selitryonnoye site (dig VII), built of adobe bricks without foundation. Such mausoleums are further known in the Crimea, made of stone (Eski-Yurt near Bakhchisarai), on the Southern Ural in stone and burned brick (The Turkhan mausoleum, the "House of Judgment", the mausoleum of Hussain-Bek which has an inscription bearing a 1311 date (Kastanye, 1910, p. 48-49; A. P. Smirnov, 1957, p. 89-92, Illustration 94-95), and at Mokhsha (the Narovchatskoye site) - mausoleum No.3 of burned brick (Alikhova, 1973). The walls retain traces of stuccoing. There were sometimes niches in the walls (Rtveladze, 1969, p. 263), sometimes windows. This was the most widespread type of mausoleum in the Golden Horde. At Bolgar these mausoleums were built of stone and with stone foundations - the "Monastery Crypt", the "St. Nicholas Church", the 1971 mausoleum, and the "Khan's Resting-Place" (Yegerev, 1958; Khlebnikova, 1970, p. 57).

Pylons standing well forward from the plane of the front wall were used in domestic architecture as well (Alikhova, 1976, p. 176, Illustration 4).

Dimensions of Mausoleums of the Second Group:

Designation	Entry faces:	Inside	Outside	Depth of Vestibule
Khan's Resting-Place (Bolgar)	North	7.4 x 7.4	8.7 x 8.7	1.6
Monastery Crypt (Bolgar)	South	9 x 9	10 x 12	4.0
St.Nicholas Church (Bolgar)	South	9.5 x 9.5	10.5 x 10.5	2.5
1971 Mausoleum (Bolgar)	SW	4.8 x 4.8	7 x 7	2.3
At Krasnaya Balka (Pyatigorsk)	South	3.9 x 3.9	7.7 x 5.8	2.0
No.5 at Yesentuk	South	2.6 x 2.75	4 x 4	0.7
At Bely Ugol village (Pyatigorsk)	South	3.5 x 3.9	5.3 x 5.5	1.95
No.4 at Selitryonnoye Site	SW	5.9 x 6.2	7.4 x 7.6	2.5
No.3 at Narovchatskoye Site	SE	4.4 x 4.4	7.4 x 7.4	2.6

The third group of mausoleums comprised those with a massive portal analogous to Central Asiatic mausoleums with a peshtak. They are known on the southern Ural, two of them without foundations (Kastanye, 1910, p. 49-50, Illustration 1; Kastanye, 1911, p. 62-63, Illustration 72; A. P. Smirnov, 1957, p. 92, Illustration 8); at the Selitryonnoye site - mausoleums at dig VIII - 1975 and dig VIII - 1977, both without foundations; at Madjar in the North Caucasus (Rtveladze, 1973, p. 271-272, Illustration 1, fig. 1), also without foundation. The walls were built of burned brick. A large number of mosaic fragments survive from the portal of the 1975 mausoleum at the Selitryonnoye site. Some North Caucasus and Southern Ural mausoleums of this group have dodecahedral drums and a marquee-like covering and flank niches within the portal niches: the Kisene and Teptyari No. 3 mausoleums (Popov, 1971, p. 44) at Madjar (Rtveladze, 1973, Illustration 1, fig. 1).

At the 1975 mausoleum on the Selitryonnoye site a stylobate of burned bricks with lime mortar, apparently a base for a memorial, was built above the graves within the mausoleum.

Dimensions of Mausoleums of the Third Group (in m.):

Designation	Entry faces:	Inside	Outside	Depth of Portal Niche
1975 at Selitryonnoye site	SW	7.2 x 7.2	9.82 x 11.84	2.8
1977 No.3 at same site	SW	4.88 x 4.88	7.02 x 9.6	1.73
Bende-Biki (Ural)	South	4.45 x 4.45	6.99 x 8.69	1.84
Teptyari No. 3 (Ural)	SW	3.1 x 3.1	5.8 x 7.0	1.5

The fourth group brings together the mausoleums with two chambers - the resting-place proper, the gur-khana, and the mourners' area, the ziyarat-khana. Burials took place in the ziyarat-khana too. All the mausoleums are built of burned brick. Some have a massive portal. Mausoleum No.3 at the Vodyanskoye site (Yegorov, 1980, Illustration 6) and mausoleums Nos. 1 and 2 at Teptyari in the Orenburg region (Popov, 1971, p. 141-143) did not have foundations; the rest had stone or brick foundations. There are such mausoleums at the Narovchatskoye site at Mokhsha (Alikhova, 1973), at Uvek (Krotkov, 1915), and in the North Caucasus (Polimpsestova and Runich, 1974). Some mausoleums (at the Vodyanskoye site) had mosaics on the portal; some (North Caucasus) are ornamented with light-blue and dark-blue glazed bricks and with incised glazed terra-cottas.

The Vodyanskoye "Khan's Resting-Place" mausoleum No.3 was lined along the interior walls with wooden beams and retained a ganch facing to the walls and cupola. A mausoleum at Uvek had two portals and entryways into both chambers.

Dimensions of Mausoleums of the Fourth Group (in m.):

Designation	Entry faces:	Inside, gur-khana	Inside, Ziyarat-khana	Outside	Depth of Portal
No.4 at Narovchatskoye site	South	6 x 6	6 x 2.3	10 x 12.7	No portal
No.5 at same site	SE	6 x 6	6 x 2.4	9 x 12.4	No portal
No.1 Teptyari (Ural)--		4.3 x 4.3	4.3 x 2.5	6.5 x 11.10	1.5
No.2 Teptyari (Ural)	SW	3.6 x 3.6	3.6 x 2.6	5.4 x 9	No portal
No.3 at Vodyanskoye site	South	7.2 x 7.2	7.2 x 3.2	10.5 x 16.6	3.0
At Bely Ugol, Pyatigorsk	SW	3.95 x 3.95	3.95 x 1.3	5.86 x 7.9	No portal
At Uvek site	SW and NW	6.4 x 8.4	3.5 x 8.4	12.5 x 21.3	2.5 and 3.56

The following mausoleums stand apart:

Mausoleum No.1 at the Narovchatskoye site at Mokhsha (Alikhova, 1972) had a stone foundation. Its walls have not been preserved. The mausoleum consisted of a gur-khana (6 x 6 m.), a small ziyarat-khana (3.5 x 3.5 m.), and two small enclosures. The portal before the ziyarat-khana had pylons on paving. Beneath the gur-khana there was a crypt with brick walls containing niches and having a floor. An oblique entry-way led into the crypt from one outer side.

Mausoleum No. 8 at Yesentukskaya constituted a decahedral tower 6.3 m. in diameter made of burned brick on a foundation of stone slabs. There was an octagonal tower-mausoleum at Madjar (Runich and Polimpsestova, p. 235, Illustration 2, fig. 3; Rtveladze, 1973, Illustration 1, fig. 5-7).

Mausoleum No. 2 at Mokhsha consisted of a rectangular enclosure (12.7 x 7.1 m.) divided into two by a wall, with a portal in the form of a vestibule at the south wall. The walls have not been preserved; the foundation was made of burned brick (Alikhova, 1973).

Mausoleum No. 2 at the Vodyanskoye site (Yegorov, 1980, Illustration 4) is made of stone, without foundation. It was rectangular in plan (9 x 10.4m.) and had a wooden floor.

An underground mausoleum of burned brick at the Selitryonnoye site (Mukhamadiyev and Fyodorov-Davydov, 1972) was square in plan (3.6 x 3.6 m.). It had a covering built as a "false arch". There were more extensive underground mausoleums at the Selitryonnoye site, 4.3 x 4.3 m. in size and with four arrow-shaped niches at the corners where the cubical space passed into the cupola (Ballod, 1923 - 2, p. 45, Illustration 16).

The closest parallels to the mausoleums of the first group are in Central Asia, particularly at Khorezm. Mausoleums of the second group perhaps arose in Volga Bolgaria and spread from there through the Golden Horde. In the architecture of the Golden Horde mausoleums there are features of Transcaucasian and specifically of Azerbaidjan architecture (mausoleums in the form of facetted towers). The planning of mausoleum No. 1 at Mokhsha has resemblances to the planning of the enclosures at the Nadjm-ad-Din Kubra mausoleum at Khorezm. Mausoleum No. 8 at Yesentukskaya finds parallels in the medieval building practices of Azerbaidjan (Bretanitski, 1966, p. 128-129, 225-226).

Anthropological and Demographic Aspects of the Townsfolk

The extensive anthropological material from excavation of the Golden Horde necropoleis made it possible for Yablonski to describe what characterized the Golden Horde city-dwellers in anthropological respects. A mingling of European and of Mongolian features was manifest. Even so, basically the people were European-like with brachycephalic traits. Yablonski finds analogies to this state of affairs in the medieval population of Khorezm. But there were also Mongol types, mainly among the élite milieu. Thus anthropologically speaking the population of the Golden Horde cities was non-homogeneous

(Zalkind, 1972; Yablonski, 1978-2; Yablonski, 1979; Yablonski, 1980-1; Yablonski, 1980-2). Increase in the proportion of Mongolianism naturally sets in with the Mongol conquest, as a result of which the Golden Horde indeed came into being. But those of Mongolian type did not make up a majority in the Golden Horde. It has been remarked in the literature that migration of Mongols into Eastern Europe was not of a mass character - these were primarily the aristocrats, but the basis of the population both in the steppes and in the cities consisted of the local Turkic peoples of southeastern Europe who had been here since before Mongol times. The Mongols lost in ethnic purity and cohesion, although a certain prevalence of Mongolian features among the privileged strata is sensed in the anthropological materials from the burying grounds.

Investigations at the necropolis on the Selitryonnoye site have shown that child mortality was not great as compared with that of other contemporaneous memorials in Eastern Europe (there were only 21% of child burials). Males lived to adulthood more than twice as often as females did. Representatives of the population strata that occupied a higher position and that buried their dead in crypts and mausoleums produce more burials at advanced ages - that is to say, they lived longer on the average. Yablonski determines the average age of men at death as 41.5 years, of women as 36 years. The average age of children at death was 7. As a whole the average age of the Sarai population (the Selitryonnoye site) at death was 32. Females frequently failed to reach mature years; many died in childbirth. At the necropolish on the Selitryonnoye site there are burials of females with the bones of fetuses (Yablonski, 1980 - 3, p. 14-15).

Mortality rose sharply during periods of epidemics. In 1346-1347 there came the peak of the "Black Death", the plague, coming from the East and moving through the Golden Horde to Russia and into Western Europe. The cities, particularly Sarai and Urgench, were depopulated: at Solkhat sometimes a thousand persons were buried per day in the cemetery outside the walls. In this city (= Krym) 85,000 persons died of plague in the 1346-1347 period (Polyak, 1964, p. 50).

Some skeletal remains discovered at the necropolis of the Selitryonnoye site exhibit a concretion of vertebrae and ribs. People with such an ailment could not move freely. An illness of the nature of podagra was widespread in the Golden Horde (Tiesenhausen, 1884, p. 311).

To judge by skulls, dental ailments were widespread, mainly caries and peridontosis (Yablonski, 1978 - 1, p. 186).

Foreigners in the Golden Horde Cities

The Golden Horde cities were inhabited primarily by a Turkic-language population, apparently drawn from the population of the steppes which had earlier been nomadic. But there were also many other peoples. Ibn-Battuta wrote that "in it (Sarai, referring to the first capital) various nations live, such as Mongols ....., some of them Muslims; Ases, who are Muslims; Kipchaks, Cherkesses, Russians, and Byzantines, who are Christian. Each nation lives apart in its own

quarter, where they also have their own bazaars" (Tiesenhausen, 1884, p. 305-306). There were foreign merchants and foreign craftsmen. Iranian master craftsmen perhaps took part in making and laying tiles in the construction of buildings at Bolgar. On a group of majolicas found at Bolgar there are Persian numerals on the edges; they indicate the order in which the tiles are to be laid. The formulas for the composition of these kashi tiles is different from the formulas for kashis from Sarai but identical with the formula for kashis from Urgench (Matveyeva, 1959, Illustration 3, p. 226; Bretanitski, 1966, p. 326).

Egyptian master-builders worked at Krym (Tiesenhausen, 1884, p. 435). On the basis of anthropological investigations Yablonski considers it possible to speak of the survival in the Volga Golden Horde cities of a considerable number of emigrants from Central Asia, especially from Khorezm.

An Armenian potter worked at Sarai and left the impression of his seal on the walls of vessels; it bore his name in Arabic letters "Anand (?) son of Sarkis" (Kramarovski, 1978-2). We know of a large group of Armenian merchants and traders in Sarai at the end of the XIIIth century; they were thereafter sent to the Crimea (Kramarovski, 1978 - 2, p. 102; Mikaelian, 1974, p. 13). In 1319 a manuscript ordered by the Archbishop Poges was written at Sarai in Armenian.

A great deal has been written in the scientific literature about Russians in the Golden Horde. There are evidences of this in literary sources and in archeological remains (Illustration 112, fig. 2, 3, 4; Rtveladze, 1965; Kuznetsov, 1970; Poluboyarinova, 1972 - 1; Poluboyarinova, 1972 - 2; Poluboyarinova, 1973; Poluboyarinova, 1978 - 1; Poluboyarinova, 1978 - 2).

In the Golden Horde cities of the lower Volga there were also Western European Catholic missionaries (Heyd, 1858). They probably brought in a glass ikon of Byzantine or Italian workmanship that was found at the Selitryonnoye site (Poluboyarinova, 1978 - 2, p. 53-54).

CHAPTER XI

TRADE AND MONEY

Foreign Trade

The cities of the Golden Horde were centers for lively trade. It was fostered by the khans and the aristocracy. They derived large profits from trade turnovers. Thus, for example, Juwayni wrote: "....Merchants from every hand brought goods to him (Batu), and whatever it might be, he took it and gave for each item a price several times greater than what it had cost" (Juwayni, 1912, p. 222-223).

There were associations of merchants which conspicuous aristocrats and members of the Jochid house could and did join (Grekov and Yakubovski, 1950, p. 153). These associations were in a position to organize large-scale caravan trade.

Perhaps one of the meanings of the term "ortakchi" - used in yarlyks of the khans without explanation - was "a merchant", a member of such an association: we know that the ortaks of Berke Khan engaged in trade and commercial transactions in Iran, holding great properties in Tabriz (Tiesenhausen, 1941, p. 81). Under Berke the ortak merchants busied themselves with commercial relationships between Iran and the Horde (Tiesenhausen, 1941, p. 82). Probably the ortaks served the khanate court and had access to the funds of the khanate treasury for their decidedly substantial trading transactions.

In certain cases the khans gave merchants special charters, symbolic tamgas which endowed them with privileges and safe-conduct (Patkanov, 1874, p. 50; Tiesenhausen, 1884, p. 306). In a number of instances merchants advanced money to the khans (Tiesenhausen, 1884, p. 147, 169). A multitude of merchants from other countries lived in the Golden Horde cities. ".... Merchants, and other aliens, from both Iraqs, from Egypt, Syria, and other places, live in a ward apart, where a wall protects the property of the merchants", Ibn-Battuta reports. At Madjar he saw a Jewish merchant from Andalucia (Tiesenhausen, 1884, p. 288, 306).

The khans not only encouraged trade but also sustained postal communication and the safety of the roads. In the XIIIth century an empire-wide postal service was active, with posting stations, a guard service, warehouses, and relays of horses. On Ögedei's orders Batu was obliged to set up a line of posting stations from his ulus to Karakorum (Grekov and Yakubovski, 1950, p. 73-74). In the XIVth century Pegolotti wrote that "the route from Tana to Kitai, according to the words of merchants who have accomplished this journey, is quite safe both by day and by night; only if a merchant should die on the way there or back, all his property is handed to the lord of the country in

which he died, and it will be taken over by his officials; but if it should prove that there should be with him a brother or close friend who can say that he is a brother of the deceased, then the property of the deceased will be delivered to him, and in this way it will be saved" (Pegolotti, 1936, p. 21-23).

Trade with the Countries of the Mediterranean

It is known that there were vigorous trade ties via the Sea of Azov and the Black Sea with Asia Minor, Byzantium, and Italy. There were some Italian colonies in the Crimea as early as the XIIIth century (Bratianu, 1929). At the beginning of the XIIIth century Al-Asir wrote of the Crimean city of Sudak,".... ships carrying clothing dock there; the clothing is sold, and with the proceeds they buy girls and slaves, furskins, beaver, squirrels, and other objects..." (Tiesenhausen, 1884, p. 26).

There was an intensive traffic in slaves - Russians, Kipchaks, Bolgars, and Caucasians - through the Crimean and Azov ports into the Mediterranean. Many slaves from the Golden Horde, in particular Russians, ended up in Italy and Southern Europe (Luchinski, p. 91; Poluboyarinova, 1978 - 2, p. 39). A great many Kipchaks of both sexes were carried out into Egypt (Amin al-Kholi, 1962, p. 11, 35; Verlinden, 1950; Barbaro and Contarini, p. 53-58).

"A great part of the Egyptian armed forces are made up of these Kipchaks, for the sultans and emirs of the country (Egypt) have been deriving from among them since the days when al-Malik as-Salikh Nadjm ad-Din Eyyub ... took to buying Kipchak slaves eagerly", al-Omari wrote (Tiesenhausen, 1884, p. 232). We know, for instance that in the year 1338 the merchant al-Kerbelai bought male and female slaves in the Golden Horde from their parents who were needy and who were obliged to sell their children into slavery (Tiesenhausen, 1884, p. 235).

The Black Sea cities were merely the outward portals of Golden Horde slave-trading. Within the country the trade was widely carried on everywhere. There is definite information on slave trading at Sarai (Polyak, 1964, p. 46).

Concerning other goods imported and exported via the Crimean cities in the 1250's Rubruck wrote, ".... all merchants drop by here, both those travelling from Turkey and wishing to direct their steps toward the northern countries, and those returning from Rus and the northern countries and wishing to continue into Turkey. They bring ermine, squirrels, and other valuable furs; others bring in cotton, fustian, and silk textiles and aromatic roots" (Puteshestviya, 1957, p. 88). There are other reports on the trade of the cities of the Black Sea littoral.

From the Golden Horde there was exportation, via Old Krym (Solkhat) and Caffa, of other eastern merchandise (marces subtiles) - spices, gems, cosmetics, fine textiles. Some sorts of silk exported were called Organinum and Carusmisna - i.e., of Urgench or of Khorezm. Silk textiles came from Central Asia, from the Caucasus, and from the Far East. Fish, caviar, and grain were also exported. From Central

Asia via the Black Sea ports there were exportation not only of silk and spices, but also of rice, brocade, saffron, and cotton (Starokadomskaya, 1974; Badian and Chiperis, 1974). Pegolotti reports on the high quality of the wheat exported from Caffa and Moncastro, a Golden Horde port in the Dniepr delta (Pegolotti, 1936, p. 21-23, 42).

From Caffa and Belogorod, flooded with Genoese, Tatar, Alan, Jewish, Armenian, and other merchants, was the start of the so-called "Moldavian trade route" which led via Belgorod and Kiliya, via Suceava to Lvov and into Poland and farther, to the cities on the coast of the Baltic Sea (Panaitescu, 1933). This route assumed particular importance at the turn of the XIVth-XVth centuries when the route to Kiev from the Black Sea littoral went into decline by reason of the alarming situation in the steppes. Slaves and grain, cattle and salt, were exported through Belgorod. Ceramics from Poland, known in the Moldavian sites of the Golden Horde period, was also imported hither via the same route. Eastern spices, and textiles, were carried from the south through Moldavia to the north. The same route was followed by such goods as wax, silver, luxury articles, and cattle (Mokhov, 1974). At the beginning of the XVth century the Golden Horde exported oxen and bulls into Poland, Wallachia, Transylvania, Germany, and Italy (Barbaro and Contarini, 1971, p. 149).

The Golden Horde city of Azak, in which the Venetian colony of Tana lay, played an important part in the trade of the Black Sea littoral. At the middle of the XIVth century Tana was the object of a dispute between Genoa and Venice, which led these states into war in the years 1350-1355. Through a peace of 1335 Genoa and Venice undertook not to sail to Tana for three years, after which Tana was declared free to the trade of both countries. The preferential trade of Venice with Tana came to an end.

Pegolotti lists the following merchandise as trickling into Tana by various routes: iron, lead, honey, ginger, pepper, saffron, gold, pears, amber, silk, brocade, cotton, canvas, linen, hides, wax, wines, wheat, rye, fish, caviar, lard, cheese, butter, copper, furs (Pegolotti, 1936, p. 24). Venice sent cloth, linen, and canvas to Tana and received from there, among other matters, furs, wax, spices, sandalwood, nutmeg and mace, medicinal substances (Pegolotti, 1936, p. 150-151, 293, 297); Barbaro and Contarini, 1971, p. 51).

Rivalry between the Venetians and the Genoese, the complicated position of Byzantium in problems of Black Sea trade, and clashes with the Tatar powers in the Black Sea and Sea of Azov cities - all these things created tension in this area, which now and again found release in diplomatic exchanges between the Italian cities and the administration of the Golden Horde khans. We are acquainted with treaties between the Golden Horde khans and the Venetians at Tana.

Record has survived regarding a 1374 journey of the Genoese merchant Lucino Arrigo to Tana and farther up the Don, thereafter by dry land to Itil (on the Volga) and via the Volga to the Caspian Sea.

Few Western European articles have been found in Golden Horde cities, but nevertheless there have been some of these. At Madjar a

brass apothecary's mortar of western European manufacture was found (Minayeva, 1968, p. 284-285). In the Belorechenskaya kurgans in the Kuban there are Venetian glass manufactures (Levashova, 1953, p. 174). Two rich silver dishes of large size have been found at the same place - one came from the shops of Dubrovnik, the other apparently from the Italian colonies in the Levant (Smirnov, Ya.I., 1909, p.272, 273; Fyodorov-Davydov, 1976, Illustration 138-144). No European articles have been found along the Volga, with the exception of glass ikons of Byzantine or Italian manufacture (Poluboyarinova, 1978, p. 53-54, Illustration 3, fig. 2).

It was twenty days' travel from Krym to the Volga area (Tiesenhausen, 1884, p. 63). Trade of the Black Sea littoral to the Golden Horde and farther, both in transit and via direct routes, into the Far East was the more important for Europe in the XIIIth-XIVth centuries in that the old, more southerly routes to the East via the Levant had been lost after the defeat of the Crusaders in the XIIth century and the beginning of the XIIIth, while during the XIIIth-XIVth centuries these routes had not recovered their earlier significance by reason of Egyptian-Iranian conflicts.

Despite a certain counteraction on the part of Byzantium, the establishment of ties between the Golden Horde and Egypt stimulated Golden Horde trade with the Mediterranean.

Egyptian merchants and geographers were very well acquainted with the road to the Golden Horde via the Black Sea and the Sea of Azov. Al-Kalkashandi, a geographer of the beginning of the XVth century, describes numerous ports of the eastern Black Sea littoral and the Sea of Azov: Chersonesus (Sari-Kermen), Sudak, Caffa, Kerch (al-Kirsh), Azov, ash-Shakarak, Abkhas, Sukhumi, and Taman (Polyak, 1964, p. 51).

Few traces of the active links with Egypt, political and mercantile, have remained in the archeological material of the Volga banks. But certain articles from Egypt have nevertheless been found at the Tsarevo and Selitryonnoye sites, particularly enamel-decorated glass, fragments of Egyptian polychrome and gilded glass lamps (Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, Illustration VII, fig. 1-4; Busyatskaya, 1976, Illustration 2). At the Mechetnoye site there was found a fragment of a Near Eastern vessel with a design of a leopard and hares (Zaikovski, 1915, p. 160). Near Eastern glass has been found in Golden Horde memorials of the North Caucasus, in the barrows at Belorechenskaya past which one of the routes from Black Sea ports to the lower Volga led (Tikhomirov, 1961, p.11; Busyatskaya, 1972, p. 86). A fragment of a coin struck by the Crusaders at Beirut was probably brought in by Egyptian trade (Mukhamadiyev and Fyodorov-Davydov, 1970, p. 158). Articles from Egypt and other countries of the Mediterranean might arrive in the Golden Horde in the character of gifts. We know that the Egyptian Mameluke sultans and the Golden Horde khans carried on active diplomatic relations, exchanged embassies, and sent each other gifts. In the sources we find lists of gifts on the part of the Egyptian sultans to the khans, abundant with luxurious manufactures of the East and of Italy, exotic animals, slaves, gems, and religious articles (Tiesenhausen, 1884, p. 100, 152, 189, 268, 325, 362, 363).

From Özbeg there were sent to the Egyptian sultan as gifts valuable arms, female slaves, falcons, the skins of white hares, and other articles (Tiesenhausen, 1884, p. 325, 326). Treaties between the rulers of the Golden Horde and of Egypt probably offered trading privileges to the merchants of both countries (Amin al-Kholi, 1962, p. 18).

Trade with Central Asia

Trading ties with Central Asia existed (Chiperis, 1964). Those with Khorezm were particularly active. In the ceramic material from the cities of the Lower Volga we are familiar with gray-clay and black-clay ware imported from Khorezm.

At the Golden Horde sites on the Volga one encounters stone vessels carved in soft talcochlorite (Illustration 95, fig. II; Illustration 109, fig. 4-6). These manufactures were apparently imported from Khorezm where, as the sources report, this stone was worked. This is also attested by geological observations (Tiesenhausen, 1884, p. 242; Pruger, 1975). These were ordinarily kettles with thick vertical walls and a thin horizontal bottom. Ornament in the form of horizontal and vertical fillets, triangular or diamond-shaped projections sometimes with vertical grooves for attaching suspension straps or cords, were placed on the walls. One encounters miniature vessels in this sort of stone (Grazhdankina and Rtveladze, 1971, p. 131, Illustration 2, fig. 10; Fedorow-Dawydow, 1972, Illustration 73, 74). The route from Sarai to Khorezm went either by water across the Caspian Sea to Mangyshlak and onward via the Kyzyl-Kums, or via Saraichik and Ust-Urt. On the route to Khorezm from the Volga banks a bridge had been built on the river Ural (Ulu-Su) of watercraft or pontoons tied to each other (Tiesenhausen, 1884, p. 307). The trade route via Ust-Urt was very active and well-managed, as is attested by the line of caravansarais on this road and by the literary sources. The caravan route via Ust-Urt from Saraichik to Khorezm, running almost in a straight line, was built about in the XIVth century with a series of caravansarais: Koskuduk, Churuk, Boleuli, Kosbulak, Djigeldy, and Uchkuduk - structures rectangular in plan running from 29 x 24 m. to 39 x 33 m., built of stone slabs and brick with round towers at two or four corners, with square courtyards inside and living and business quarters along the walls. There were caravansarais of two storeys. Side by side with some of them there were covered water-reservoirs to store rain-water for the caravans, and quarries for securing building stone, and also cemeteries. Finds in these caravansarais offer a picture of mixed Volga and Khorezm ceramic ware. Travel was undertaken on covered four-wheeled carts and wagons drawn by camels (Tiesenhausen, 1884, p. 307-308). We may note that on other trade routes oxen and horses were used (Tiesenhausen, 1884, p. 281; Puteshestviya, 1957, p. 89-90).

The journey from Sarai to Khorezm via Ust-Urt took 40 to 45 days (Tiesenhausen, p. 242, 307, 308), from Sarai to Saraichik ten days. According to Pegolotti the journey from Saraichik to Khorezm took 12 days on camels. The journey from Khorezm to Krym lasted approximately three months.

Trade with Iran and India

From Khorezm a route ran to the Far East and via Central Asia, into Iran and India. Trade with Iran also went through the Caucasus. Warlike operations did not obstruct trade relatiuons with Iran. There is information in the correspondence of Rashid-ed-Din concerning some sort of merchandise from the Desht-i Kipchak in Iran. The merchant Shams-ad-Din Mukhammed of Shiraz in 1348 travelled to the Volga banks with goods, and brought back to Herat goods from Sarai, something which brought him an enormous profit (Zakhoder, B.N., 1967; Fyodorov-Davydov, 1978 - 2).

At the beginning of the XVth century horses and camels were exported from the Golden Horde to Iran (Barbaro and Contarini, 1971, p. 149). We are acquainted with a trade in horses with India. The exportation of Golden Horde horses to India was of the nature of large commercial undertakings. Caravans of up to six thousand horses were despatched (Tiesenhausen, p. 286-287). From Tereshchenko's excavations at the Tsarevo site we have a bone panel with à jour ornamentation and the images of an elephant and monkeys, probably of Indian workmanship.

In the cultural stratum of the Golden Horde cities a great many cowrie shells are found (Illustration 87, fig. I).

Trade with the Far East

With regard to the trade route from the Mediterranean through Azak, Sarai, Saraichik, and Khorezm (Urgench) to Kitai, Pegolotti wrote: "He who wishes to set out with merchandise should betake himself through Organci (Urgench), since seething trade activity takes place there", and further: "He who wishes to proceed from Genoa or Venice to these places and to travel to Kitai, let him take textiles with him and go to Organci, and at Organci he can buy silver with these and go on toward Kitai" (Pegolotti, 1966, p. 21). Beside the route via Khorezm there was a direct route from the Golden Horde through Saraichik to Otrar and Almalyk. It was well guarded. For example, a military guard post stood at every day's interval on the sector of this route between Otrar and Almalyk. The route from Derbent via Sarai to Kitai took five months (Tiesenhausen, 1884, p. 236).

It was mostly silk that was imported from Kitai. In the archeological material there are traces of trade with China in the form of a certain amount of import porcelain. There are Korean porcelain manufactures. Imported mirrors are encountered, although rarely (Grekov and Yakubovski, 1950, Illustration 33).

Trade with Rus and with the North

We know that Russian merchants visited the Golden Horde Volga area. Russian ships travelled on the Volga and the Don (Tiesenhausen, 1884, p. 63). There are findings of Russian articles in Golden Horde cities. But it is difficult to say which of them were acquired through trade and which formed part of the domestic arrangements of Russians living in the Golden Horde cities, or had been manufactured by them. We are acquainted with articles brought from the Golden Horde into

Russian cities - finds of rich Golden Horde ceramic ware at Novgorod, Moscow, Vladimir-Volynsk, in Suzdal-Nizhegorod cities (Mongait, 1948; Latysheva, 1971, Illustration 4; Arkheologicheskiye Otkrytiya for 1976, p. 327).

It is known that salt was exported from the Golden Horde Crimea into Rus (Puteshestviya, 1957, p. 90), and that such salt was also exported by sea to Western Europe.

Golden Horde merchants, in the company of large trading caravans, carried out commercial expeditions through Volga Bolgaria and into the North (Tiesenhausen, 1884, p. 297), from which their imports were primarily furs (Puteshestviya, 1957, p. 98). The trade via the Volga carried gray and black Khorezm ceramic ware into the cities of Volga Bolgaria.

Trade of the Cities with the Steppe

The economy of the steppe nomads was not of a completely autonomous nature. Apparently they purchased some manufactures in the cities. Wine, for example, was exported from the cities into the steppe (Puteshestviya, 1957, p. 95). In burials of nomads of the XIVth century one encounters imported silk and brocade textiles, bone ornaments to quivers that possibly come from the cities, some sorts of mirrors - also a product of city crafts, rich ornaments of corded filigree, and the like. Sometimes, although rarely, there are encountered in such burials kashi and red-clay vessels from the cities. Kashi vessels were transported in wooden cases (Levashova, 1953, p. 174). Golden Horde coins, too, are found in the burials.

One ought to remark that the monetary and trade activities affected the western part of the Desht-i Kipchak considerably more powerfully than they did the eastern part (the Kazakhstan and Eastern Siberian steppes).

There were bazaars at the nomadic headquarters of the khans and the aristocracy (Puteshestviya, 1957, p. 121). Sometimes they received the name Orda-Bazar (for instance on coins of the XVth century).

Trade within the Cities

But in the steppe there was none of that intensive exchange of goods, small retail every-day trade, that took place in the Golden Horde cities. That market was a characteristic phenomenon of Golden Horde urban life. An enormous quantity of coins, in the main of copper, are found in the cultural stratum of the Golden Horde cities. Let it suffice to say that during the period of Tereshchenko's excavations on the Tsarevo site in 1843-1849 some 25,766 coins were found (Tereshchenko, 1850, p. 410).

Coins were carried in purses, of coarse cloth, silk, or leather (Krotkov, 1915, p. 122; Yegorov and Fyodorov-Davydov, 1976, Illustration VI, fig. I). Gold and silver coins were for the most part stored away in the ground. This led to the great number of hoards of Golden Horde coins, buried in ceramic vessels or wrapped up in cloth or

in leather. Hoards are found both on townsites and at places remote from cities. A part of the hoards was buried by merchants at a moment of danger and by country residents during periods of alarming political circumstances. Very large hoards are encountered - up to twenty thousand coins.

Prices

Almost nothing is known about prices of goods. According to Ibn-Battuta, in the 1330's horses could be bought at Saraichik for four dinars each (about 37 grams of silver), which was very cheap (Tiesenhausen, 1884, p. 308), and at another point Ibn-Battuta speaks of the price of a steed as being 50-60 dirhems, (about 10 dinars or 93 grams of silver), which, as he remarks, was also cheap (Tiesenhausen, 1884, p. 286). A 46.4 kg. load of wheat (100 ratl) cost 2.5 dinars (23 g. of silver) at Sarai and Khorezm, and a load of lentils the same. The load of barley was two dinars (18.7 g. of silver); 3 ratl (1.4 kg.) of mutton cost 1 dirhem (1.56 g. of silver) (Tiesenhausen, 1884, p. 242). At the middle of the XIVth century a keg of "Latin" wine cost 1.5 of a sum (about 300 g. of silver) at Azak. The value of slaves fluctuated violently. In the 1350's a young Tatar slave-girl cost on the average 600-700 aspers, i.e., 0.7 - 1 kg. of silver, at Tana (Azak). 3.5 sums were given for a runaway slave (0.7 kg. of silver). Boys were sold on the average for 4.5 - 5.5 sums (about 0.9 - 1.1 kg. of silver). A forty-year-old female slave cost 140 aspers (about 0.15 - 0.2 kg. of silver). In 1363 a sharp drop in the price of slaves occurred by reason of the abundance of supply (Verlinden, 1950; Poluboyarinova, 1978 - 2, p. 39).

Coinage and Monetary Circulation

Monetary circulation was highly developed in the Golden Horde. Striking of silver and copper coin was carried out on an enormous scale.

The earliest coins in the Golden Horde were struck in the 1250's at Bolgar in the name of the supreme Karakorum Khakans Mengu and Arig-Bugi. There was struck at the same place a silver coin with the inscription "the high (principal) tamga", subsequently with an image of the clan totem of the Jochids in the form of a two-pronged fork with a crossbar or of a trident. Coins were struck with the name of the khans, perhaps Berke and unquestionably Mengu-Timur and Tuda-Mengu. The striking in the 1360's of coins bearing the names of Jochid khans signified the complete formal setting apart of the Golden Horde from the central authority of the supreme Chinghizid khakans, especially after the capital of the Mongol empire had been transferred to Peking under Khubilai in 1260.

In the 1270's and 1280's, during a period of political turmoil within the Golden Horde, anonymous coins with the tamga of the Jochids were struck, primarily at Bolgar. To a certain degree this conveyed the concept, characteristic for the XIIIth century, of governmental authority over conquered lands as being a family-wide achievement of the ruling house, something that was expressed by the badge common to all the Jochids (Yanina, 1950, p. 428-433). A second center striking

coins in the XIIIth century was Krym. Striking at Khorezm commenced in the 1270's. At the same time coinage commenced at Sarai, under the strong influence of Khorezm master moneyers (Fyodorov-Davydov, 1961). At the end of the XIIIth century and at the very beginning of the XIVth century there was coinage of no great volume at Ukek and Azak.

The basic material for Jochid coin striking was silver evidently coming in as tribute from the Russian lands. But the initiation of coinage became possible only when the widely disseminated stock of silver became concentrated in the hands of the Golden Horde state. Krym and Volga Bolgaria had long had close ties to Rus and were nuclei for the trading routes that connected the Russian lands with the South and the East. At the start it was just these centers of coinage that were better supplied with silver than the others.

Development of far-reaching trading ties was obstructed by the variety of Jochid coin types in the XIIIth century. In 1310 a reform to the end of unification was carried out under the khan Tokta. Local striking of silver coin was suppressed and was reduced by degrees to nil. In place of local coin there was introduced into circulation a silver coin uniform in weight (the dirhem) that was struck at Sarai from 1310 onward. Numerous Sarai issues followed year by year and by the 1340's they had thrust aside almost all other coins in the markets of the majority of the Golden Horde provinces. The old coins of the XIIIth century were removed from circulation.

Sarai, upon issuing coins during the first third of the XIVth century, was sometimes called Sarai al-Makhrusa, which means Preserved of God. From the 1340's onward silver and copper coins commenced to be issued by New Sarai (Sarailal-Djedid), from the 1350's by Gulistan, which on some coins had the epithet al-Djedid, i.e., "New", and by Iis Sarai, which is to say "just outside Sarai". These lower Volga centers were the principal and almost the only suppliers of silver coin (dirhems) throughout all regions of the Golden Horde until the 1360's. The weight was very constant; it was checked, and it was not altered until the 1370's.

Matters stood otherwise with the striking and circulation of copper coins - the pul. In the first place, they were struck without any strictly determined metrological norm being observed, as a consequence of which the weight of one issue of puls fluctuates round and about its average weight; and in the second place from 1310 to the 1380's the average weights of individual issues of puls were altered.

A comparison of the compositions of coin finds from such sites as Tsarevo, Selitryonnoye, Vodyanskoye, and Uvek on the one hand, and Bolgar, Narovchat, Azov, Old Orkhei, Urgench, and Madjar on the other makes it possible to assert that in the cities of the Lower Volga the composition of the copper circulating medium was different from that in the provincial border cities in which, side by side with the copper puls of Sarai, Gulistan, and New Sarai there were in circulation many puls of local striking (Krotkov, 1930; Fyodorov-Davydov, 1963; Nudelman, 1976). One should also number among the peculiarities of the circulation of copper the fact that copper coins, being to a considerable extent "tokens of value", did not enter into hoards. We

are precisely acquainted with only two small hoards of copper coins, whereas some hundreds of hoards of silver Golden Horde dirhems are known, in which connection only individual copper coins, and that quite rarely, form part of their composition.

Hoards and individual finds of coins indicate the areal coverage of Jochid coins. Along with the Lower Volga, Mordvin terrain, Volga Bolgaria, and the North Caucasus, the lands of the principality of Ryazan and the regions adjoining the upper and middle flows of the river Don, Northern Donets, and Seim (the Upstream Russian lands), and the steppes of the Black Sea littoral, the Azov littoral, and Moldavia are drawn into the field of circulation of the dirhem. On the terrain of Rus the Jochid dirhem did not penetrate farther than the south of the principality of Nizhegorod, the principality of Ryazan, and the Upstream lands.

From the 1360's onward there came to be carried out an abundant striking first at Azov (sometimes New Azak - Azak al-Djedid - or Azak Preserved of God - Azak al-Makhrus - was written on the coins); thereafter coins came to be struck on a mass scale in the steppe center of the Horde which was also called New Horde (Orda al-Djedid) and Most Supreme Horde (Orda al-Muazzam). In the 1370's the location of the Horde, to judge from the written sources and from the topography of the distribution of coins of the Horde, was in the northern part of the Sea of Azov littoral (Fyodorov-Davydov, 1960).

The mintage of Azak and of Orda was carried out on local metrological standards different from that of the Sarai, New Sarai, and Gulistan coinages, and this signified an end to the prevalence of a single Golden Horde dirhem inalterable in weight and struck on the basis of a uniform metrological standard. Separate numismatic provinces become distinct - at Azov and the lands adjoining it along the Donets is a zone where the Azak coinage preponderates, and in the northern Azov littoral is a zone where the Orda dirhem circulates preponderantly. Mintage in the lower Volga becomes exiguous at this time and cannot ensure silver coin to the markets. A currency crisis ensued in the Golden Horde during the 1370's, and the provinces experienced a deficit in silver coin. The authorities found their way out of the crisis through different courses. In order to avoid a disordering of the monetary circulation and the withdrawal of silver into hoards or the melting down of coins into ingots, various measures were introduced in some of the provinces, mainly overstriking and the clipping of silver coin - measures which made it possible to increase what the coins in circulation commanded on the exchange and to obstruct their being sealed into hoards (Fyodorov-Davydov, 1956; Fyodorov-Davydov, 1960; Fyodorov-Davydov, 1963; Mukhamadiyev, 1969 - 1; Mukhamadiyev, 1970).

In 1381 Toktamysh introduced a new reform of the currency directed toward unification of monetary circulation and its restoration to a healthy state. A uniform metrological norm for the dirhem was now

introduced in all the centers that came to strike coins (Sarai, New Sarai, Azak, Krym, Hadji-Tarkhan, Madjar, and others). Whereas after Tokta's reform of 1310 uniformity of monetary circulation was established through abundant issues on the part of a single mint, now this uniformity was brought into being through a single obligatory metrological norm for the striking of coins by various monetary centers. Old coins were exchanged for new ones somewhat lighter. But this reform was fully carried out only in the Lower Volga area. In other places the new coin coexisted with the old, and they circulated at reciprocal rates established through the operation of natural market forces. In Volga Bolgaria the old coin continued to circulate, but in clipped form, and the new dirhems of Toktamysh scarcely made their way there at all. The reform of Toktamysh could not overcome centrifugal tendencies in the evolution of Golden Horde monetary circulation.

Archeological material dated by coins has shown that there was a sharp reduction of urban terrain and a decline in the cities of the Volga banks as early as the 1370's. The urban market, too, went into a decline. For the monetary circulation of this period (the last quarter of the XIVth century and the beginning of the XVth) one may note a small quantity, or an almost complete absence, of coins of Toktamysh among the mass finds at Golden Horde townsites, although there are a great many more hoards of Golden Horde coins that were buried under Toktamysh, the majority of the coins in them being made up of coins precisely of this khan. This is apparently to be explained by the fact that finds of coins in the culture stratum reflect domestic retail circulation in the cities at the same time that coin hoards constitute property holdings, deliberately saved up in anticipation, that were concentrated in the same sorts of hands, i.e. in the majority of cases they were the property of merchants and wealthy people. Evidently from the 70's and 80's of the XIVth century onward there came about a sharp curtailment of monetary circulation in the Golden Horde cities of the Lower Volga area. But at the same time merchant capital associated with the transit trade continued to develop and the mass of silver coins was absorbed almost exclusively by that entity.

In 1400, under the administration of Ödigei, a third nation-wide monetary reform was carried out. But this too failed to create unity of monetary circulation. At Bolgar they started to strike their own coin once more. In other Golden Horde cities coin commenced to be issued under a metrological standard different from that of Bolgar.

During the period of greatest stability of the currency in the Golden Horde, that is, during the years 1310 - 1370, it is possible to reconstruct the system of money and account. At its basis lay the dirhem or in Turkish the "Yarmak" - a silver coin. In consisted of two daniks (the danik was a unit of account and weight equal to one-sixth of a unit of weight, in this case the Miskal). Six dirhems constituted a unit of account - the dinar or in Turkish the "altyn". (Mukhamadiyev, 1969 - 1; Mukhamadiyev, 1972). The gold dinar coin was not issued in the European centers of the Golden Horde. The gold dinar was struck only at Khorezm (Fyodorov-Davydov, 1965 - 3). One danik was considered equal to 16 puls (copper coins). This relationship was indicated for certain early issues of puls under Özbeg. A ratio of 6 dirhems to one dinar also held sway in Iran under Mongol rule and in the Djagataiid

state of Central Asia. Coins were always accepted in the Golden Horde by tale, both the copper ones and the silver ones. Clippings from coins did not enter circulation.

There existed in the Golden Horde an open or "free" striking of silver coin from silver brought in by private persons. In this connection those persons received, for a given quantity of metal delivered, a strictly determined number of coins of established, immutable weight and test, with the retention of a certain definite number of coins by the mint as payment for the service and as a contribution to the treasury. On this point Pegolotti wrote expressly, in dealing with the currency of Azak (Tana) in the XIVth century, "And when anyone carries silver to the Tana mint, from each of the sums (the monetary metrological unit) which we have referred to the mint makes 202 aspers by tale. Yet although the mint makes 202 from the sum, it delivers to outsiders 190 aspers; and it is held that the remainder goes for the service, and to the profit of the mint. So 190 aspers are regarded as being equal in value to the sommo (Pegolotti's Italian word for sum - Tr.) of Tana". (Pegolotti, 1936, p. 35; Fyodorov-Davydov, 1958 - 1).

Within the Golden Horde the khan's financial counselors understood well, for their day, how things stood with the laws of monetary circulation; for given the immutability of the weight of the dirhem, the only condition under which this "free" and "open" striking of coin could subsist, the monetary circulation must experience a tendency of silver to depart into hoards, and consequently it was subjected to a threat of derangement. These dangers were occasioned by inevitable fluctuations in the rate for silver and by disproportions which arose between its market and its monetary values, and they were augmented through any possible shortage of silver. The Golden Horde authorities corrected or "adjusted" the monetary circulation through constant reforms in the circulation of copper, the circulation of silver remaining unchanged. From time to time the Golden Horde treasury issued new puls with new outward appearances. Sometimes they even put the legend "new pul" on coins of these new issues. The old puls were apparently interdicted, and the populace had to exchange them at the treasury for new ones. In this connection the new puls were probably called equal to some larger number of old puls. In order that the populace might more readily accept the new puls, they were made heavier on the average, more "solid" in the eyes of a population not yet recognizing coins as being merely tokens of value. In this way the new copper coins came to be endowed with a higher purchasing power, yet since the equivalence of 16 puls to one dannik of silver was retained, the rate for silver and for the silver dirhem equivalent to two such danniks rose somewhat.

Such was the mechanism for evening-off and for raising slightly the rate of the silver coin without altering its weight. During the period of currency crisis in the 1370's it ceased to be effective, and this was one of the reasons for Toktamysh's reform of the 1380's.

Foreign Coins in the Golden Horde

Dirhems struck in the cities of Central Asia, coins from Iran,

and even ones from China of the Yuan dynasty entered the monetary circulation of the European part of the Golden Horde, even though in insignificant quantity (Tereshchenko, 1854, p. 96). Merchants sometimes brought in considerable masses of coin; this is attested by the Yekaterinoslav hoard and by the Selitryonnoye hoard of 1949 (see Savelyev, 1857-1858, p. 11, and Pakhomov, 1966, p. 65), in which a considerable part of the coins fell to the Transcaucasian coinage. But these parcels of coins usually were prompt to dissolve among the masses of silver coin of local Golden Horde mintage.

There were also coins of Khorezm in the monetary circulation of the European part of the Golden Horde. But there were also few of these. We know that the trade route from the Volga shores to Khorezm and return functioned in a decidedly intensive fashion in the XIVth century. The small volume of finds of Khorezm coins on the Volga banks and of Volga mintages in Khorezm does not fit in with this. Evidently this trade was serviced by a system of non-cash accounts and by an exchange of bills, which had been no rarity in eastern trade at an even earlier time.

Gold Indian coins, for the most part of the coinage of the Sultans of Delhi, circulated in the Golden Horde in comparatively large quantity. A hoard of eight such coins was found at the Tsarevo site. They are to be found in many coin hoards of Golden Horde silver coins or of valuables, for example in the Simferopol hoard (Bykov, 1969; Rtveladze, 1972 - 1; Simferopolski klad, 1980).

On the Black Sea and Sea of Azov littorals one encounters coins of Trebizond, Byzantine, and Italian mintage. In the western areas of the Golden Horde groschen of Prague circulated side by side with Jochid coins.

The External Appearance of Golden Horde Coins

The prerogative of striking coins belonged only to khans - the Jochids. Even such omnipotent emirs as Mamai and Ödigei did not strike coins with their own names. In external respects the silver and copper coins of the Golden Horde were designed in extremely various fashions, in which connection at any one time coins struck in different cities looked different from one another and were readily distinguishable one from another. At each center of the Golden Horde there was a school of moneyers of its own, and certain features of the composition of the type and quirks of the script in the inscriptions are stoutly maintained as a tradition in the currency of one city or another (Frähn, 1832; Savelyev, 1857-1858). On one side there was usually the title "the just sultan" or "the supreme sultan", the word khan, and the name. The title khakan is found, but rarely. There were in fact anonymous coins, though again rarely - at Khorezm, for example. These tell us of manifestations of separatism within the Golden Horde (Fyodorov-Davydov, 1965 - 3, p. 181, 185).

One encounters theocratic Muslim religious formulas, the symbol of the faith, the names of the first four caliphs, etc.

During the period of turmoil in the 1360's and 1370's the khans

sometimes occupied the throne for no more than a few days or months, yet struck coins. Numismatic facts are the best source for study of the dates and sequences of the rules of the Jochid khans and of the territorial borders of their authorities within the Golden Horde.

Campaigns of conquest in Transcaucasia under Janibeg and Toktamysh have left tracks in Jochid numismatics. There are coins struck in the names of these khans in some of the Transcaucasian cities - Gandj, Nakhichevan, Shaberan, Tbilisi, Shemakh, Baku, and others (Savelyev, 1857-1858, p. 121-129). Sometimes the name of the khan (Tokhta, Toktamysh) was written in Uighur script, sometimes together with Muslim names (Djelal-ad-Din or Nasir ad-Din for Toktamysh, Mukhammed for Özbeg, and others). There are coins of the temnik (commander over 10,000, a general - Tr.) Nogai with a legend in Latin letters (Iliescu, Simion, 1964). On the reverse there was usually the place of striking and the year of the Hegira in digits, very rarely spelled out in full.

The name of the khan was rarely written on copper coins, with the exceptions of the cases of certain khans (for example Khyzr and Myurid). There is in addition on many copper coins, as we have seen, a legend specifying the ratio between the silver dannik and puls. The name of the mint and the date usually appeared, but there are many issues of puls that lack the name of the mint and the date. Images were frequently placed on copper coins. There are no images on silver coins of the XIVth century, although in the XIIIth century images, in addition to the tamga, are encountered - birds, an animal, a bow and arrows. Astral symbols were often placed on puls of the XIVth century - a lion and a sun, a sun in the clutches of a crab, an aquarius, scales. One encounters images of undetermined beasts of prey, of a camel, of a horseman, of a building with a half-moon, of two asses at a trough, of a bird, of one fish or of two, of a peacock with tail spread, of rosettes in the form of small flowers, of a sickle, of a woman with a child, of a two-headed eagle. Countermarks found on Golden Horde copper and silver coins and applied for the most part in the period of crisis and coinage curtailment in the 1370's and later assume various forms: in the form of an inscription "khan", "just", "victory", "Toktamysh", in the form of tamgas and symbols, in the form of a rosette. Sometimes two countermarks are found (Yanina, 1950, p. 454-456).

Monetary ingots

In addition to coins, there were small bar-like silver ingots - sums - that formed part of the monetary circulation of the Golden Horde. Small silver ingots as a payment medium current in the Mongol Empire including also the Golden Horde in the XIIIth century are mentioned by Rubruck under the designation "yaskot". This is probably a corruption of the Turkic "yastug". The Mongols themselves called small ingots of precious metal that were current as payment media "sukhé" (axe). There is another name, a Persian one also used by Rubruck for these silver and gold ingots - "balish" (Puteshestviya, 1957, p. 132, 151, 234). Sum was the Turkic name for these small ingots within the Ulus Jochi.

Metrological Systems

Several metrological systems were current within the Golden Horde. Scale-weights have been found at Sarai. For example, during the excavations at the Tsarevo site Tereshchenko discovered a set of weight equivalents. They consisted of a pound, a quarter, an eighth, and a twelfth. The weight of the pound example, that is the ratl, was 468 g. At the Tsarevo site and at Uvek there were also found octagonal copper weights of 455.7 g. and 46.3 g. (Tereshchenko, 1854, p. 96; Frähn, 1911, p. 15-16). These are a ratl and the tenth of a ratl. The ratl evidently consisted of 100 miskals by weight at 4.68 g. per miskal. This is a weight in widespread use in the Muslim East; it corresponds to the Sarai and the New Sarai dirhem, which evidently weighed about 1.56 g., made up of two daniks of 0.78 g. each. The danik, in its turn, was the equivalent of 1.6 of a miskal of 4.68 g. There were also other weight units and systems.

Golden Horde scale-weights did not ordinarily bear indication of their multiplicity factors, and for that reason it is difficult to determine their ideal weight. Still, a majority of the scale-weights may be associated with fractions of a ratl equal to 100 miskals or to 144 dirhems by weight. In external appearance these are most frequently hexagonal or octagonal squat prisms, cylinders, or rosette-like thick slabs (Fyodorov-Davydov, 1961; Spitsyn, 1893, p. 89; Yanina, 1972, p. 32).

For suspension use was made of scale-weights with round bronze cups, each having three loops attached to rings. At the Tsarevo site there were found, in addition to these cups, the balance-beam of a scales and an arrow with a frame into which the balance-beam was fastened.

CHAPTER XII

SCIENCE, LANGUAGE, AND LITERATURE

Science

The Golden Horde brought out from Central Asia, Iran, Egypt, and Iraq scholars, theologians, and poets, or alternatively they enticed them from those parts. The famous physician Al-Noman al Khorezmi lived at Sarai; it was said of him that "he was learned in logic, dialectics, and medicine", and that he was one of the most highly cultivated persons of his day (Tiesenhausen, 1884, p. 175). We can judge of the development of astronomy and geodesy at Sarai through the finds of parts of astrolabes and quadrants (Sarai 802; Fyodorov-Davydov, 1966 - 2, Illustration 8, fig. 1). On the arc of an astrolabe is a lattice of degrees and of identifications of the degrees in Arabic letters; on one projection is the word "East", on another " - degrees".

Al-Omari has reported on the use of astronomical instruments in Golden Horde Bolgar (Tiesenhausen, 1884, p. 237).

Despite the development of astonomy there were mistakes in calculating for the kybla, that is to say the direction toward Mecca necessary to the construction of a mosque. Thus the mosque excavated on the Vodyanskoye site was oriented with an error of about 10-12°.

It is possible that a well-known teacher of rhetoric lived at Sarai: the teacher of al-Sad at-Taftazani, a scholar in this field who was famous in the East (Amin al-Kholi, 1962, p. 33).

Languages and Inscriptions

The Golden Horde cities had mixed populations. The basis consisted of Turkic peoples related to the Polovtsian nomadic population of the steppes. In a certain measure these peoples had been nomadic in the past, brought in forcibly by the khans or coming in of their own will to lead a settled life in the cities. The Mongol population was for the most part the upper crust - Mongols who had gone over to Turkic speech and had become Turkicized to a considerable extent constituted the aristocratic patrician and official magnate stratum. Al-Omari, an Arabic writer of the XIVth century, said on this matter that in ancient times "this state was the country of the Kipchaks, but when the Tatars took possession of it the Kipchaks became their subjects. After that they (the Tatars) mixed with them (the Kipchaks) and entered into kinship with them, and the land won the upper hand over their natural and racial qualities (i.e., those of the Tatars), and all of them became just like Kipchaks, as though they were of the same lineage with them, because the Mongols (and Tatars) had settled on the land of the Kipchaks, had entered into marriage with

them, and had remained to live in their country (that of the Kipchaks)" (Tiesenhausen, 1884, p. 235).

For characterization of the every-day speech that resounded in the Golden Horde cities the inscriptions that were made casually, on the run, are of particular importance. A shoulder-blade of an ox from New Sarai merits special attention: on it two little faces are drawn in India ink with an inscription: "A caricature, I swear by Allah. Ali put his hand to it .... the son of Muhammed (made it?)". The inscription is in the Polovtsian language (Fyodorov-Davydov, and Vainer, 1963, p. 243-244; Usmanov, 1963, p. 246; Fyodorov-Davydov, Vainer, and Mukhamadiyev, 1970, Illustration 28; Fedorow-Davydow, 1972, Illustration 114).

There are other Turkic inscriptions, poetical and prosaic everyday-life ones, particularly on vessels from the Tsarevo site (Tereshchenko, 1950, p. 387; Tereshchenko, 1954, p. 92; Kramarovski, 1980, p. 70).

Turkic-language inscriptions were written mainly in Arabic letters. Arabic script also became the main one in chancery correspondence. Yarlyks of the khans are written in Turkic but with Arabic letters.

Mongolian inscriptions are also met with. In the XIIIth century and sometimes in the XIVth diplomatic correspondence was conducted in Mongolian with use of Uighur script (Tiesenhausen, 1884, p. 68), vertically and horizontally. On coins, where inscriptions are almost always written with Arabic letters, one sometimes encounters the name of the khan written in Uighur script, as we have seen, while the titulature continues to be written with Arabic letters. On coins of the XIIIth century one encounters Mongolian inscriptions of well-wishing content: "Kutlug Bulsun" and the like - that are written in Uighur script. But even in the XIIIth century they were rare, and in the XIVth and XVth centuries they have disappeared. Uighur script and Mongolian inscriptions are preserved in legends on paizas - credentials of investiture and talismans.

During excavations at a large aristocratic house on the Selitryonnoye site (dig XI) in 1979 a fragment of stucco bearing graffiti was found. A crowned head of a man was depicted, such as is typical for images of khans in miniatures of the XIVth-XVth centuries. There were sections of two vertical lines of a Mongolian inscription in Uighur script" "Khara...Bukha...", evidently parts of names (Illustration 81, fig. 3; Arkheologicheskiye Otkrytiya for 1979, p. 135).

The monk Paschalis studied the Kipchak language and Uighur writing at Sarai as means of communicating in Tartary, Cathay, and Iran (Heyd, 1886, p. 242; Uspenski, 1949, p. 273). In the Golden Horde the Turkic language and Arabic writing did not altogether thrust out the Mongolian language and Uighur writing; these latter held on as survivals in a few official inscriptions and in the aristocratic milieu (Usmanov, 1979, p. 96-101).

As regards official documents issuing from the chanceries of the Jochid khans, one should note that in those chanceries there were specialists in many languages: a missive of the Pope was translated in Batu's chancery, as Plano Carpini reports, into Russian, "Saracen", and Tatar. Rubruck wrote that in Sartak's camp headquarters there were people who knew Turkic, Arabic, Syriac, and Armenian (Puteshestviya, 1957, p., 71, 113; Usmanov, p. 97-98).

Arabic-language inscriptions are found upon objects and are for the most part of a well-wishing or didactic nature. On a silver finger-ring found by Tereshchenko on the Tsarevo site one reads, "Love toward God". (Tereshchenko, 1850, p. 407). On a gold ornament found at the same time on the Tsarevo site there is an inscription "I have created thy image together with the light". On a marble candlestick from the Tsarevo site there is an inscription in suls writing, "Victorious, benignly borne aloft, conqueror of the infidel, creator of order". Below this there is an inscription in larger letters, "Mastery and glory eternal and health and good fortune" (Grigoriev, 1847, p. 367; Tereshchenko, 1850, p. 377).

On a mirror from the Tsarevo site there is an inscription in each of six medallions: "Glory and mastery and long years to the owner of this" (Grekov and Yakubovski, 1950, Illustration 34).

We are acquainted with a Golden Horde mirror from the neighborhood of Volgograd (Stalingrad - Tr.), found in 1973 at the village of Krasny Yar, that has an Arabic inscription along its edge (Illustration 108, fig. 3): "Eternal glory and peaceful life and utter good fortune and effective mastery and splendid happiness".

On Golden Horde mirrors with two sphinxes there is a circular inscription in "blossomed Cufic" (Fyodorov-Davydov, 1976, Illustration 127): "Glory and prosperity, and might, and high position, and praise and enjoyment, to the owner of this forever".

On a pierced cast bronze tablet, apparently a facing to a door, there is an Arabic inscription, "May the good fortune of the owner of this last as long as the dove shall coo" (Grekov and Yakubovski, 1950, Illustration 29; Fedorow-Dawydow, 1971, Illustration 116).

A fragment of stucco with an Arabic inscription "Passion for thee" was found at the time of Tereshchenko's excavations at the Tsarevo site (Tereshchenko, 1854, p. 91).

Persian inscriptions are known from Golden Horde sites. On one of the tiles found during the period of Tereshchenko's excavations at the Tsarevo site there was an inscription in Persian: "Oh heart! Look upon a world ordered in accordance with thy wish. Behold how in it men become subject to temptation as did Noah in the thousand years (of his life). Behold how many gardens and flowers have been cultivated in the world. Behold how many gigantic palaces and halls have been erected. Behold in how many thousand satins and brocades men have proudly enveloped themselves. And thereafter have destroyed them" ((Russian) reading in translation by Kh. M. Frähn). These verses were written along the edge of a rectangular tile bearing transparent glaze, with

white background and blue inscription, that constituted a square the center of which was filled with buds and leaves. Placing verses of famous poets upon tiles had of old been a tradition of Iranian architectural decor (Grekov and Yakubovski, 1950, Illustration 51; Fyodorov-Davydov, 1976, Illustration 82).

The same Persian verses may be read on a fragment of a glazed white bowl found at the same time, written in blue (cobalt) with a depiction of a flying bird on the bottom of the inside (Sarai 1491).

In 1980 there was found at the Selitryonnoye site a round mosaic medallion with flower ornament in the center and a Persian inscription at the edge (Illustration 62, fig. 1): "The world is bound to the will of destiny, but the king is a pastor and a high source of hope, and the might of the state and the allotment of happiness" (reading and Russian translation by A. D. Papazian).

Generally speaking the architectural inscriptions of the Golden Horde cities of the Volga were almost all in the Persian language.

Amid the ruins of a wealthy multiple-room house on the Selitryonnoye site there was found in fragments a large bowl with a polychrome overglaze inscription (Illustration 31, fig. 2; Illustration 32). Upon it there are Persian verses, among which only one line can be read: "They say that there is living water in the world" (reading and Russian translation by A. A. Ivanov).

We may declare that the Persian language performed a major function in the Golden Horde, particularly as the language of traders. The Persian language was widespread at Karakorum in the middle of the XIIIth century. A charter given Carpini for the Pope in 1246 was written in bad Persian full of Turkicisms, yet still Persian. The dissemination of the Persian language in Golden Horde cities at the turn of the XIIIth-XIVth centuries is evidenced by the so-called "Codex Cumanicus" - a trilingual dictionary in which Persian is the third language. Among the merchants in the cities of the eastern Black Sea littoral where this dictionary was apparently compiled there had arisen an imperative need for translation from Kipchak into Persian.

A number of Persian words and terms were used in the Golden Horde - "keshk" - Tower, "takht" - throne, "bargakh" - marquee (Tiesenhausen, 1884, p., 298). It is precisely from this period that the many Iranian elements in the Tatar language take their start.

Scribal Activity

Writing was done by means of reed pens, or sometimes brushes (Usmanov, 1979, p. 93). A bronze calamus shaped like a rod square in section with a split and sharpened point comes from the Tsarevo site (Grekov and Yakubovski, 1950, Illustration 9). The metal pen commenced to be used in Europe only with the XVIIIth century.

In a burial near Uvek there were found, along with a Mongolian inscription on birchbark, a bronze inkwell and a bone calamus (Poppe, 1941; Usmanov, 1979, p. 92, 93). Ceramic inkwells were used. Writing

instruments were kept in bronze pen-cases. Scraps of paper were found at the Tsarevo site (Ballod, 1923 - 1, p. 103). The paper was imported - Central Asiatic, Hither Asiatic, and later on, European (Usmanov, 1979, p. 86-87).

Scribal activity and bureaucracy were organized at a high level of develolpment; order in the length of lines and the size of the paper sheet had been worked out and was strictly held to; forms for letters and yarlyks were observed. Black, yellow, and red inks were used, sometimes ones containing gold (Tiesenhausen, 1884, p. 343; Usmanov, 1979, p. 89-92). Gold was used in writing documents of invocation and certain titles, proper names, and words. But in comparison with Iran, Egypt, and other Muslim countries, bureaucratic formulas were more relaxed and less highly developed in the Golden Horde.

One should remark that, just as in the early Mongol empire, the sources for scribal activity, output, and bureaucracy within the Golden Horde in general are to be sought among the Uighurs. Egypt exercised a certain influence on the chancery of the Jochids (Usmanov, 1979, p. 119-121).

There were tracing-alphabets for learning to write. A fragment of one such alphabet, incised upon a ceramic tablet and retaining the Arabic letters : " ṣād " and " ḍād ", was found at the Selitryonnoye site (Illustration 56, fig. 11).

Seals and Talismans

Finger-ring seals with engraved stone mounts - sardonyx, nephrite, and the like - were widely used. For example, a rectangular black nephrite mount with a mirror-written inscription "Apas Bek" (Fyodorov-Davydov, Vainer, and Guseva, 1974, Illustration 13), a round white nephrite mount with a mirror-written inscription "Mukhammed Ali" (Illustration 87, fig. 15), a round sardonyx mount with a rosette-like pattern (Poluboyarinova, 1980, Illustration 8). A rectangular sardonyx mount with a mirror-written inscription in Cufic letters "In the name of Allah, the merciful, the compassionate. Victory is from Allah and triumph is at hand .... of the faithful" (reading and Russian translation by M. M. Dyakonova; Levashova, 1960, p. 181, Illustration 22).

Impressions of seals with the title and name of the khan and religious formulas, all within a square frame, have been preserved.

Square seals, "Nishans", were the symbols of khans; the symbols of other Jochids were almond-shaped finger-ring seals, and the finger-ring seals of non-Jochids were round, square, or rectangular. For seal impressions red (alaya-tamga), blue (kok-tamga), and gold inks were used (Usmanov, 1979, p. 91, 143-167).

Symbols of investiture and of safe-conduct issued by the Chinghizids, the paizas or talismans, were of various sorts depending on the rank of their holder: gold, silver, cast-iron, bronze, and wooden plaques bearing inscriptions. Ones that are actually of the Golden Horde are known only in silver. The inscriptions on them are in

Mongolian, in Uighur letters. For example, "By the power of the everlasting sky. Through the protection of the High Mightiness. He who fails to bear himself worshipfully toward the decree of Abdullah-Khan shall sustain injury and shall die". The silver paizas were ornamented with stylized oriental designs in addition to their inscriptions, in particular moons and suns amid clouds, and heads of tigers. Two bronze tablets are known that bear the title "sultan" written in Arabic letters, plus the name Toktamysh in Uighur letters, with an ornament (Savelyev, 1857-1858, p. 61). Perhaps these are bronze paizas. One of them was found at a small Golden Horde settlement - Ityakovo in the Mordvin lands (Fyodorov-Davydov and Tsirkin, 1966). We may note that these tablets are almond-shaped, which associates them with the Jochid finger-ring seals.

Marco Polo wrote that centurions had silver paizas and commanders of ten centuries had gold ones or silver-gilt, while temniks (generals, "commanders of 10,000", - Tr.) had gold ones with a lion's head. On all of them was the command "By the will of the Great God and through his great favor to our sovereign, blessed be the name of the khan and may all disobedient persons die and disappear". The image of a lion is supplemented by the image of a sun. To "grand princes" the supreme khan gives a paiza with a falcon. The paiztsa (Mongol "pai-tzü"? - Tr.) conveyed the additional authority to requisition provisions and horses (Marco Polo, p. 113; Marko Polo (Russian version), 1955, p. 103). The paiza (basma) of the envoy of the khan of the horde, Akhmet, was trodden under foot by the Muscovite Prince Ivan III in his definitively sundering the bonds of the Horde's yoke that had been weighing upon Muscovy (Banzarov, 1850, p. 59p; Melioranski, 1907; Inostrantsev, 1908; Spitsyn, 1909 - 2; Grekov and Yakubovski, 1950, p. 139, Illustration 22-23; Fedorow-Dawydow, 1972, Illustration 95; Malm, 1976; Münküyev, 1977).

Literature and Art

A literary language, the so-called "Volga Turkic", sprang up in the Golden Horde cities. Some literary productions that have come down to us were written in this language.

Refinement of feeling, the delicate aroma of flowers, the beauty of woman were sung in this language, and along with this there was also in the literature a great deal of democratic motifs and of expressions of popular thought and wisdom.

Persian literature exercised pronounced influence upon Golden Horde writing.

A famous poet who wrote in Turkic, Saifi Sarai, came from the city whose name he bears (Nadzhip, 1974). Saifi Sarai's principal work, half-and-half prose and verse, was in the main a free translation into Volga Turkic of the "Gulistan" of Saadi. The Persian language and its literature were admired and imitated in Golden Horde literary circles. The translation was started in 1391 in the Kipchak colony in Egypt.

The poem "Mukhabat-Name" of Khorezmi is an example of the

influence of Persian poetry - its forms, measures, and genres - on the Turkic-language poetry of the Golden Horde. It was composed in one of the cities on the lower reaches of the Sur-Darya, where the left wing of the Ulus Jochi had settled down (Nadzhip, 1961). This poem is constructed in accordance with classical canons drawn up in Iran, with their typical eulogies, masnevi, and ghazels. The poem of Kutba "Khosrov and Shirin", written in 1341 somewhere on the lower Syr-Darya and dedicated to Tinibek, heir to the Golden Horde throne, was a free translation of a Persian poem (Nadzhip, 1979, p. 33).

Khorezm strongly influenced Golden Horde literature. For example, it is with that area that the activity of Suleiman, a jurist and a follower of the sheikh Akhmed Yasevi, is associated. Suleiman's verse writings were widely familiar in the Turkic world, particularly along the Golden Horde Volga (A. N. Samoilovich, 1928, p. 19; Yakubovski, 1931, p. 25).

A "Nakhdj al-Faradis" is known; this was a prose work of religious dicactic content which was written at Sarai in the mid-XIVth century by Makhmud ibn-Ali, offspring of a sheikh from Sarai, who was born at Bolgar and who received his education under Birdibek at Kerder in Khorezm (Nadzhip, 1979, p.61).

Mongol literature likewise existed. A random find at a barrow near Uvek was a birch-bark manuscript written with Indian ink in Uighur script, partly in the Uighur language and partly in Mongolian. The Mongolian part of the manuscript is verse, telling of a conversation of a mother with her son who is departing to render feudal service to his lord. A few characters in square script have been preserved on the manuscript (Poppe, 1941; Grekov and Yakubovski, p. 175, Illustration 26). This manuscript is interesting not only for its content which shows a high degree of poetic skill, but also in that it is written down by a scribe who was a master of the Mongolian and Uighur languages and of two ways of writing, Uighur script and Mongolian square characters.

Representational art was for the most part of an applied nature. We are very familiar with it in ceramics, architectural decoration, carved bone, and jewelry articles (Fyodorov-Davydov, 1976). Using ceramic art as our example, we have sought in an earlier section to single out the features of artistic style in the Golden Horde cities. These features become manifest, in a certain measure, in other fields of the artistic crafts as well. The Golden Horde cities were full of imported art manufactures, and although these are not the products of Golden Horde decorative art in the true sense, they do indicate a high living standard and esthetic demand and they also reflect to a certain extent the taste of the inhabitants. This taste was decidedly eclectic.

This eclecticism, this intermingling of cultures, was accentuated by the fact that a subject population of many ethnically and culturally variegated peoples took part in creating the culture of the Golden Horde cities. Even so, a definite stylistic manner worked itself out in the literature and arts of the Golden Horde, and this was a part of that artistic style which assumed form in the western areas of those

lands, mainly Muslim, that fell within the scope of the Mongol conquests - Central Asia, Iran, Transcaucasia, the Volga basin, and the North Caucasus, to a less extent the Crimea and Moldavia.

CONCLUSION

We have examined in many of its aspects the culture of the Golden Horde cities, mainly in the lower Volga region. This is an important page in the history of world culture. But in studying it we must recall that it was created as a result of conquest that inflicted enormous loss upon the peoples conquered, retarding their independent development. The conquerors quickly melted down into the local Turkic milieu. The Golden Horde cities were peopled by Mongols and Polovtsians and Bolgars and Russians and emigrants from Central Asia, the Caucasus, the Crimea, and the like. It was their hands that built this culture of the cities. There were few features in it that had been brought from the Far East. Elements brought by the Mongols from Central Asia were more numerous. The foundations of this culture were laid by the traditions and cultural modalities of the highly developed settled urban civilizations of the peoples we have referred to.

In the presence of an orientation of the khans toward Islam and of an urban way of life that was of Central Asiatic-Iranian type, there suddenly comes into overflowing life in the South Russian steppe, far removed from Muslim homelands, a vivid eastern medieval urbanist culture altogether alien to the nomads, a culture of glazed bowls and of mosaic panels on mosques, of Arabic astrologers, Persian verse, and Muslim theological learning, of interpreters of the Koran and algebrist-mathematicians, of ornament and calligraphy of recondite delicacy. This culture was short-lived and was not rooted in traditions of settled living in the Lower Volga area, a place where a nomadic steppe had existed thitherto. It was created by the hands of subjugated peoples.

For all the high level attained by Golden Horde culture in the XIVth century, in studying it we always have the feeling that this culture sprang up in a sort of "empty quarter", among a milieu of nomads and without lasting local roots of its own. It is a brightly manifested metamorphosis. The many traits and features borrowed from various peoples failed to amalgamate organically enough, were rather mechanically conjoined, in a sort of makeshift way. In many connections one senses the ephemeral character of the traditions of urban living, a failure to understand it and a lack of acclimatation to it. Being trade-and-crafts centers the Golden Horde cities depended in many respects upon a strong central authority and could not thrive on their own, without its support in a state torn by dissension.

But with all this there still existed a definite and to a considerable degree a unified style. A jangled choir of eclectically combined elements was submerged by the mighty voice of the new style in applied art, the principal art of Golden Horde culture - a style to a considerable extent "pathetic", sonorous, "baroque" as it were, with a pronounced tendency toward "picturesqueness".

In a plastic language of its own this style speaks to us of a

time of blood and enslavement but also of intense although constrained development of manufacturing and trade, a time signalized by new and at the same time worldwide political concepts and strivings, by transcontinental journeys, diplomatic missions into most remote areas, stormy confrontations of religions, dramatic collisions, and sweeping migrations of peoples.

The Golden Horde style, and the culture of the cities as a whole, were to a great extent an "imperial" style and culture encouraged by the power of the khanate and serving a strong central supernational authority equipped with a bureaucratic machinery backed by a powerful army and officialdom - the authority of a state in large measure parasitic, flourishing thanks to an exploitation of transit trade and to the extraction of tribute from the countries it had subjugated. But this was not all. The motley population of the Golden Horde itself, nomadic and settled, labored under the rule of the khans and their suites to create Golden Horde culture, namely its democratic component. A negative reaction to the consequences of the conquests of Chinghiz-Khan does not relieve one of the need to study the culture of the Golden Horde cities. An investigator in this field comes across the fruits of the work of learned men, artists, and master craftsmen from among the conquered nationalities, forcibly transported into parts strange to them. Soviet historians approach the problem of Golden Horde culture in just this way, discerning in it a mingling of the cultures of many peoples who inhabited the territories of our country in olden times when there was a preponderance of Central Asiatic features and an overall sway of the Turkic ethnos and language. This idea was well expressed in the works of the salient Soviet historians B. D. Grekov and A. Yu. Yakubovski and elaborated upon by other investigators: "In addition to the Golden Horde khans, there was at work within the Golden Horde a large population no longer nomadic but locally settled. Crafts manufacture flourished in the cities, cultural life throve. In a word, the Golden Horde too had a population of its own, kaleidoscopic (it is true) in its ethnic composition, living its own inward life some traces of which have been preserved not only in memorials of material culture and art, but also in the record of cultural interaction with neighbors. The great October Socialist Revolution in the USSR has made it possible for each nationality group to make the acquaintance of its own true history. From the standpoint of the history of the nationalities of the USSR, and of Russian history above all, the Ulus Jochi or Golden Horde is of outstanding interest; one cannot understand the creation of the centralized Muscovite state without the Golden Horde, against which the Russian people carried on a heroic struggle that became an immutable historic record". (Grekov and Yakubovski, 1950, p. 9).

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Illustration 100. Bronze manufactures. 1-4. - Nails and rivets; 5-12, 16. - Buckles; 13. - Strap chape; 14, 15, 18. - Plaques with pins; 17, 19-21. - Plaques. Selitryonnoye site.

Illustration 101. Bronze and bone manufactures. 1-7, 9-11. - Bronze rings and finger-rings; 8. - Bronze ring for drawing bow; 12. - Bone ring; 13. - Bone ring for drawing bow; 14. - Fragment of bronze bracelet; 15, 19. - Bronze sewn attachments; 16. - Pendant; 17. - Bronze pin; 18. - Bronze plaque with pins; 20. - Bronze object, purpose unknown; 21. - Billon finger-ring; 1. - Tsarevo site; 2-17, 19-21. - Selitryonnoye site; 18. - Vodyanskoye site.

Illustration 102. Bronze manufactures. 1-3, 5-8. - Chain links; 4. - Bronze finial; 9. - Headdress. Selitryonnoye site.

Illustration 103. Lead and bronze manufactures. 1-7. - Lead weights; 8. - Lead ornament; 9. - Bronze die for stamping plaques; 10. - Bronze object, purpose unknown; 11. - Lower part of bronze ornament shaped like a man; 12. - Bronze bracelet; 13. - Bronze mould; 14. - Bronze amulet shaped like a man. 1, 3. - Tsarevo site; 2, 4-13. - Selitryonnoye site; 14. - Baige-sar, Kalmyk area.

Illustration 104. Bronze manufactures. 1-3. - Plaques for straps; 4. - Plaque with pins; 5. - Plaque; 6. - Loop; 7-9, 11-13. - Locks, and springs for locks; 10. - Snuffer; 14. - Spoon. 1. - Vodyanskoye site; 2-14. - Selitryonnoye site.

Illustration 105. Bronze manufactures. 1. - Hanging lamp; 2, 3. - Parts of vessels; 4. - Tweezers. 1. - Vodyanskoye site; 2-4. - Selitryonnoye site.

Illustration 106. Bronze manufactures. 1, 2. - Loops for hinges; 3. - Vessel; 4. - Sewn attachment with impression in form of "lucky knot". Selitryonnoye site.

Illustration 107. Bronze manufactures, and stone casting mould. 1, 4, 5. - Bronze mirrors; 2. - Stone mould for casting mirrors; 3. - Small bronze vessel. 1-4. - Selitryonnoye site; 5. - Vodyanskoye site.

Illustration 108. Bronze and billon mirrors; gold amulet. 1-4. - Mirrors; 5. - Gold amulet with inscription. 1. - Tsarevo site; 2-4. - From barrows on lower Volga; 5. - Selitryonnoye site.

Illustration 109. Bronze manufactures and small stone vessels. 1. - Bronze set of fittings for belt; 2. - Bronze mace-head; 3. - Bronze lid or stopper; 4-6. - Stone vessels. 1. - Krivaya Luka barrow Group XXXI in Astrakhan district; barrow 2, burial 1; 2-6. - Selitryonnoye site.

Illustration 110. Silver plaques found near Volgograd.

Illustration 111. Bowls of precious metal. 1. - Gold bowl; 2. - Silver bowl. 1. - Tsarevo site; 2. - Found near village of Gradizhsk outside Poltava.

Illustration 112. Silver chalice and Russian object. 1. - Silver chalice; 2. - Small bronze ikon with image of St. George; 3. - Finial to a helmet; 4. - Small mould for casting a pendant showing a cross. 1. - Barrows at Cossack village of Belorechenskaya in North Caucasus; 2. - Astrakhan; 3. - Tsarevo site; 4. - Vodyanskoye site.

Illustration 113. I. - Plan of the Tsarevo site. Legend: 1. - Lakes; 2. - Ruins of structures; 3. - Moat; 4. - Walls of Villas; 5. - Streets with aryks; 6. - Reservoirs in the city; 7. - Excavations.

Excavations: (As numbered on the two plans):

1, 2. - Excavations of rampart and moat; 4, 5. - Investigation of walls of villas and rampart of townsite; 6. - Excavation at street crossings in sections of townsite; 7, 8. - Excavations in central part of townsite; 9. - Excavations of mosaic-making shopn 10. - Villa in southern suburbs, the so-called "House with the Yurts"; 11. - The so-called "House on the Dunes"; 12. - Investigation of dugouts and houses in southern suburb; 13. - Investigation of the three villas in the eastern suburb; 14. - Investigation of the three villas in the southeastern aristocratic wards; 15. - Cemetery.

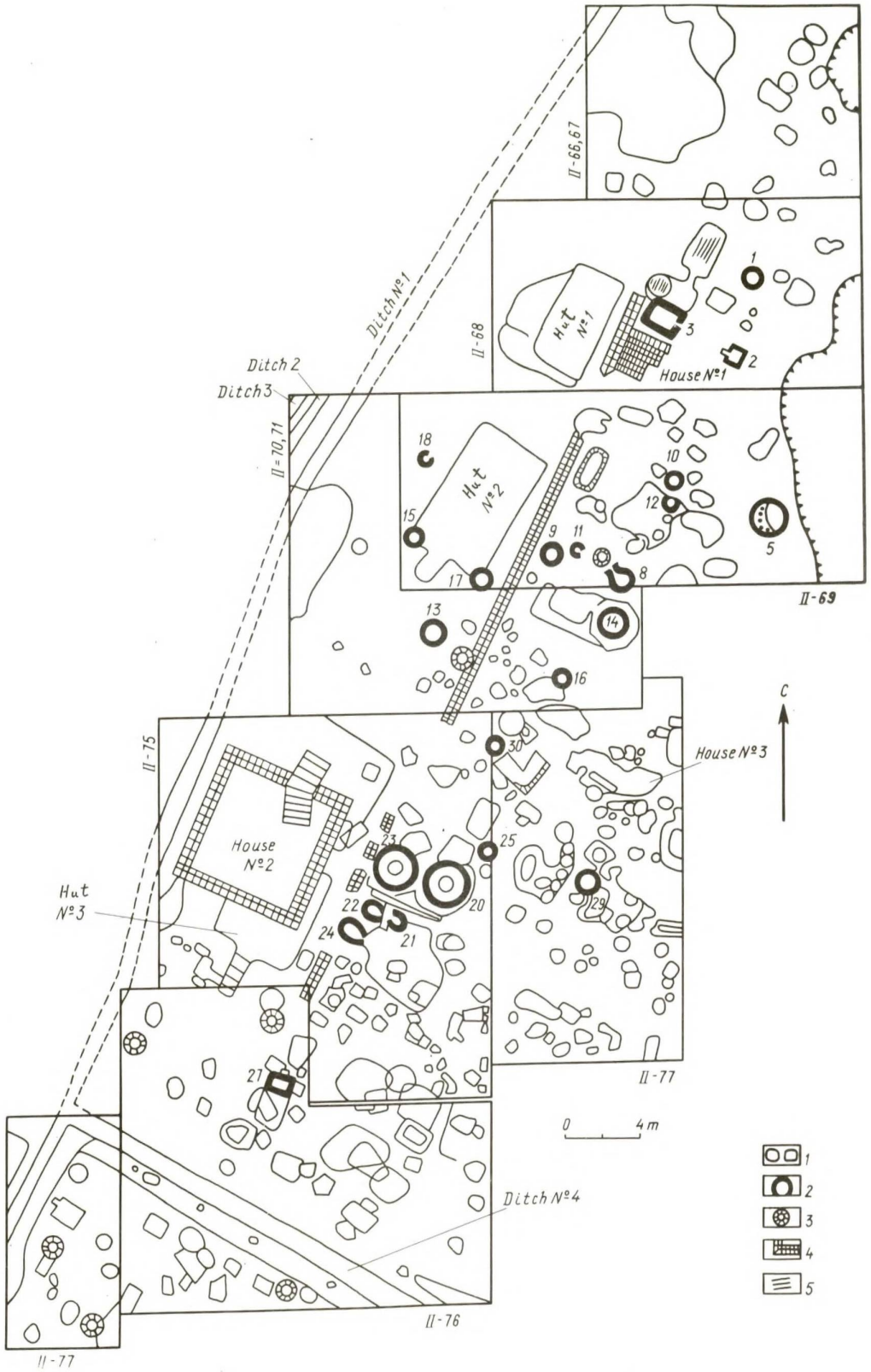
II. - Plan of the Vodyanskoye site. Legend:

1. - Rampart and moat; 2. - Excavations; as follows: 1. - Mosque complex; 2, 3, 5. - Run-of-the-mill housing; 4. - Complex of the bath-house and the pottery workshop; 6. - Russian quarters; 7. - Two houses.

ABBREVIATIONS

AM	-	Astrakhan Local History Museum and Reserve.
AN SSSR	-	Academy of Sciences of the USSR.
L.	-	Leningrad
M.	-	Moscow
Ptrg	-	Petrograd
Ris.	-	Risunok (The English word "Illustration" is used throughout in this translation and it is spelled out in full)
Sarai	-	"Sarai", used for the collection formed from the excavations of A. V. Tereshchenko at the Tsarevo site, and now held at the State Hermitage.
SKM	-	Saratov Local History Museum
SPG.	-	St. Petersburg
s.	-	page
fig.	-	figure

(The translator has avoided use of most, if not of quite all, these abbreviations in the English text, and has used English equivalents, written out in full, in preference to them).



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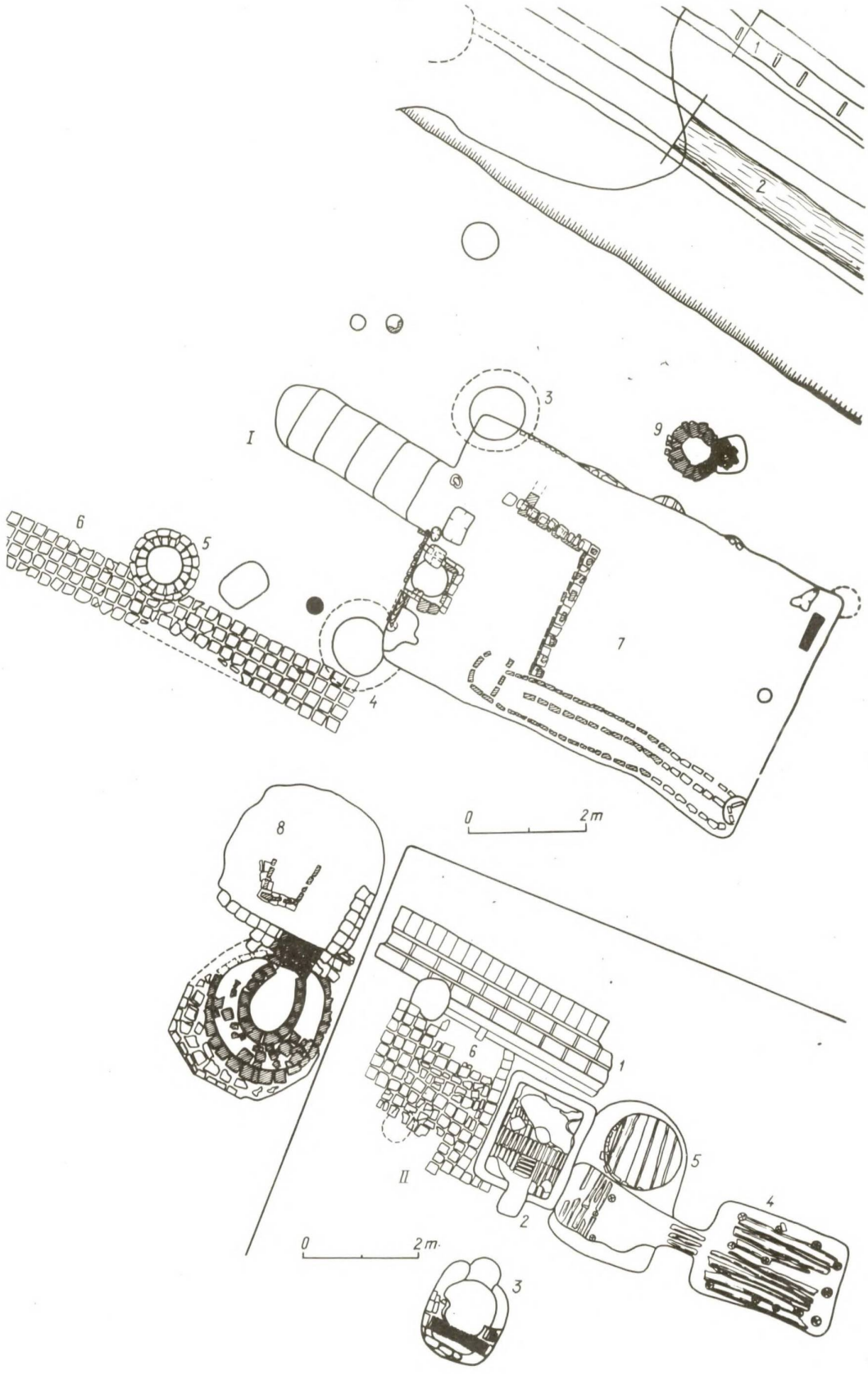

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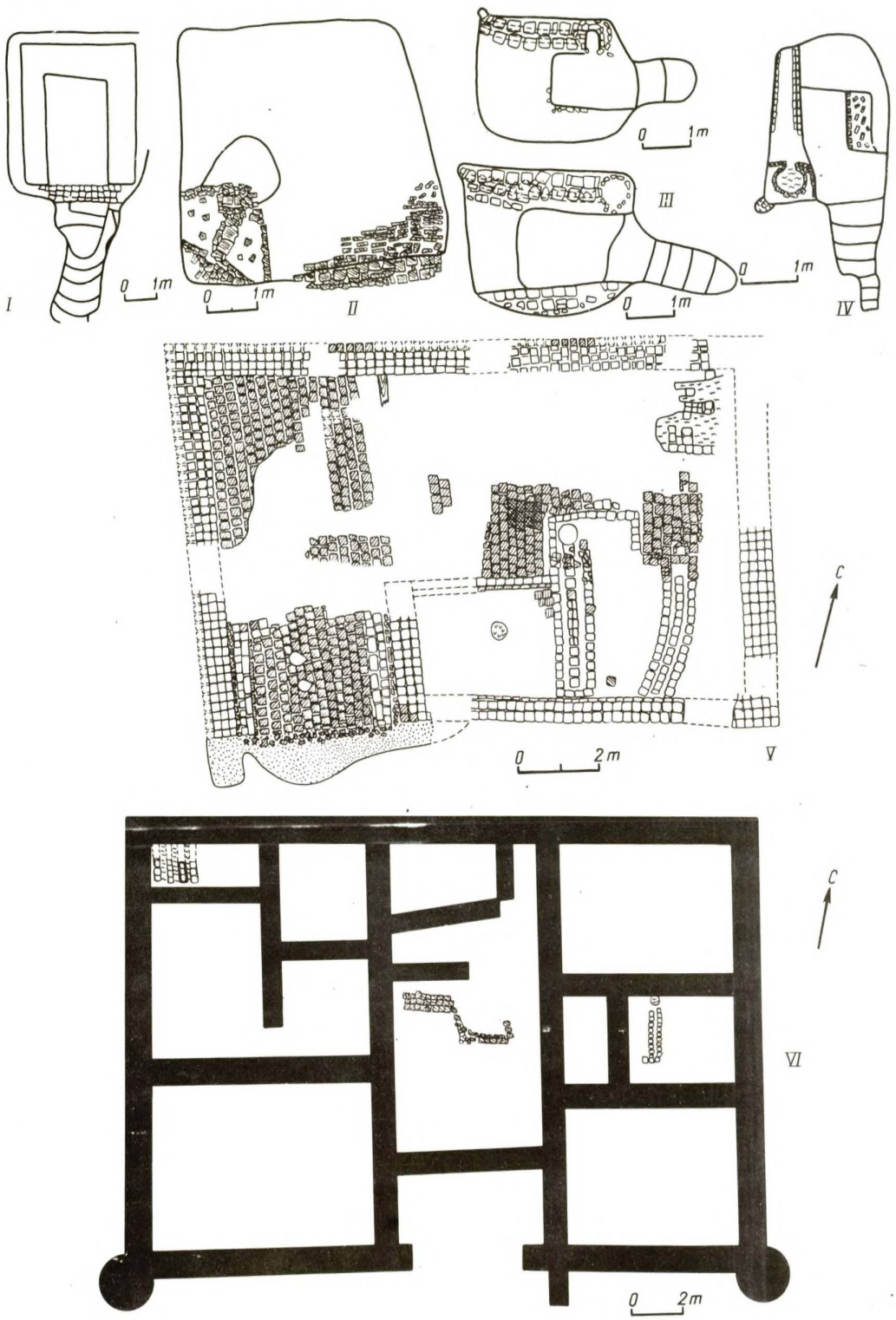

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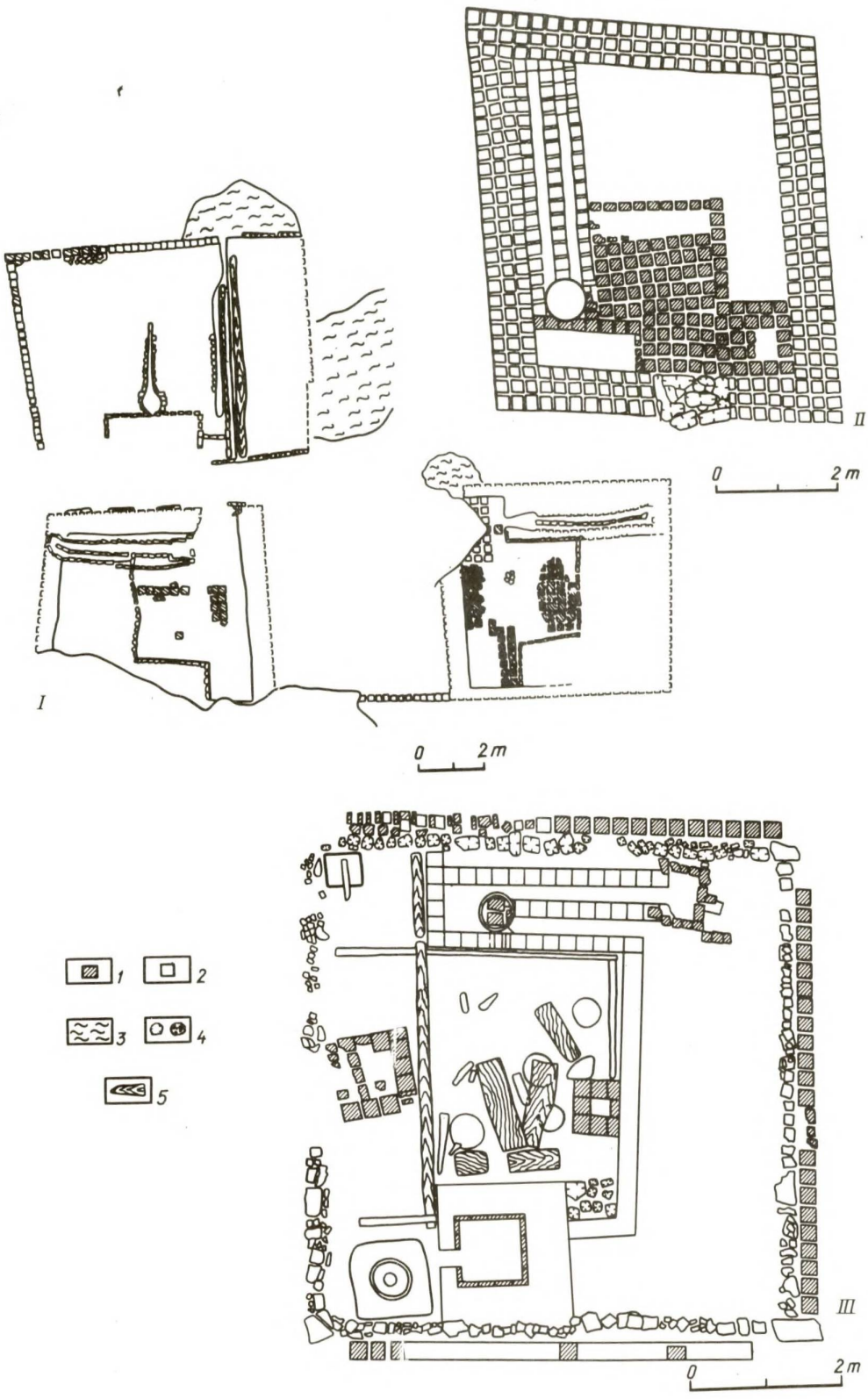

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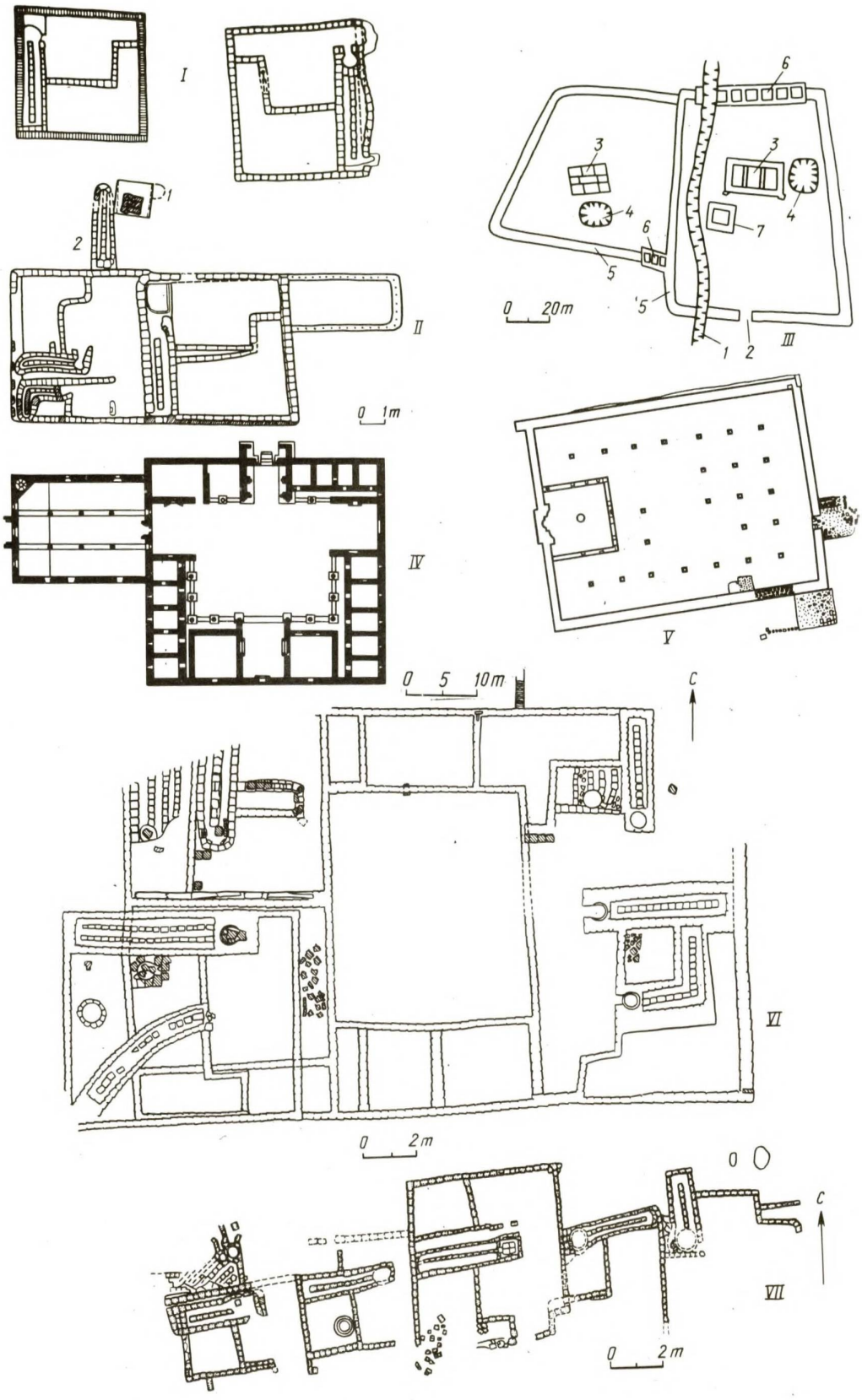

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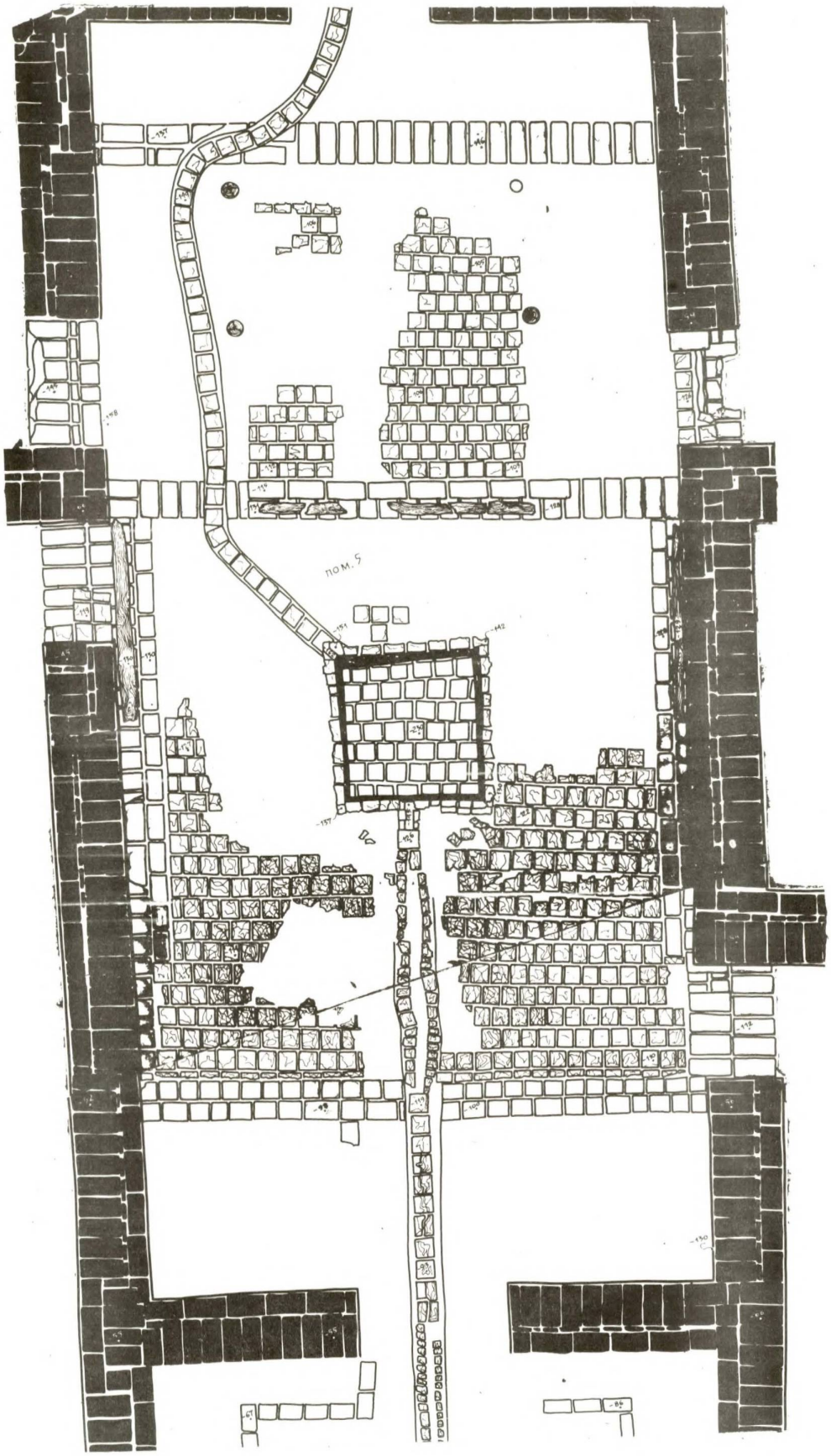

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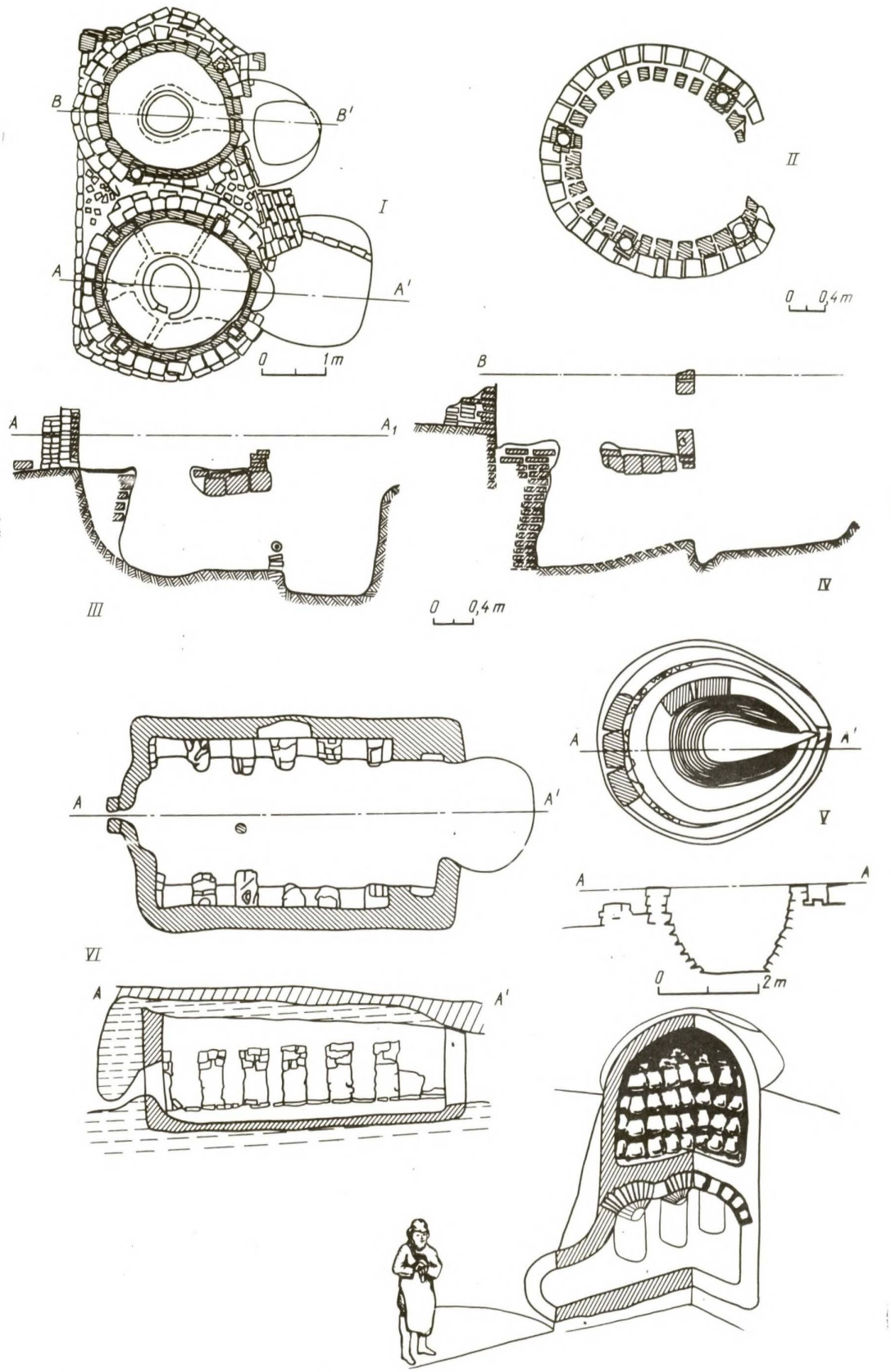

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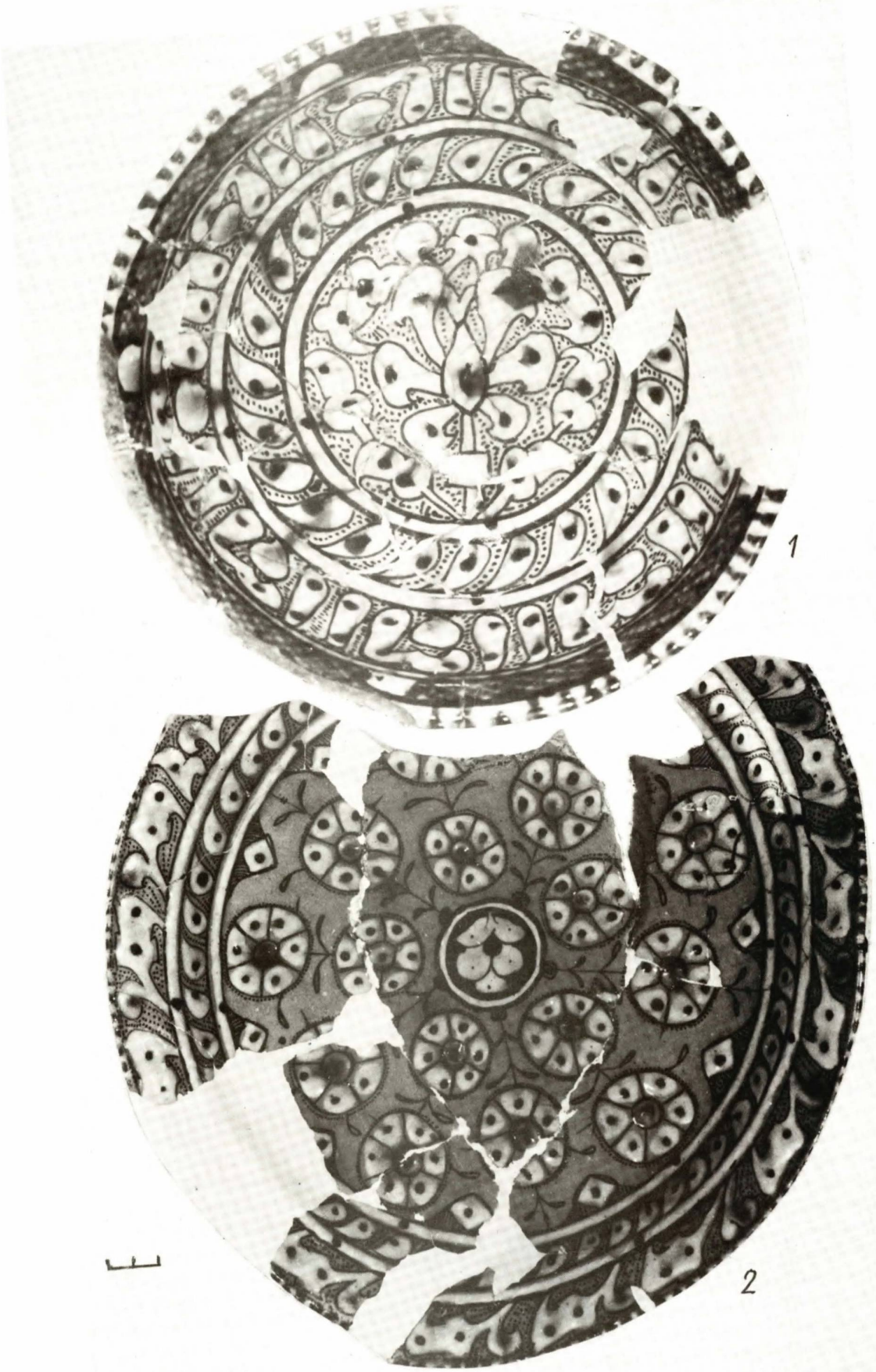

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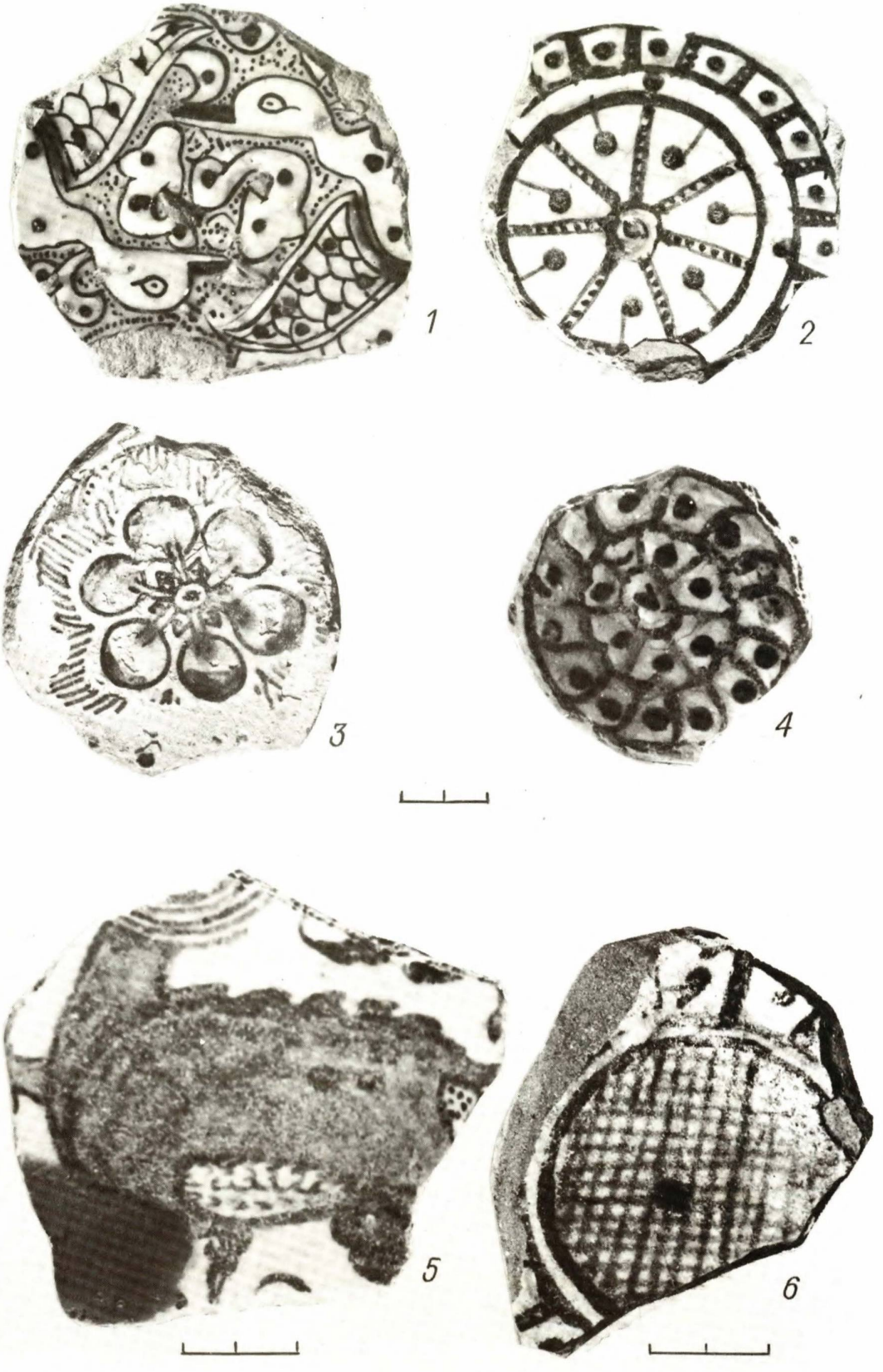

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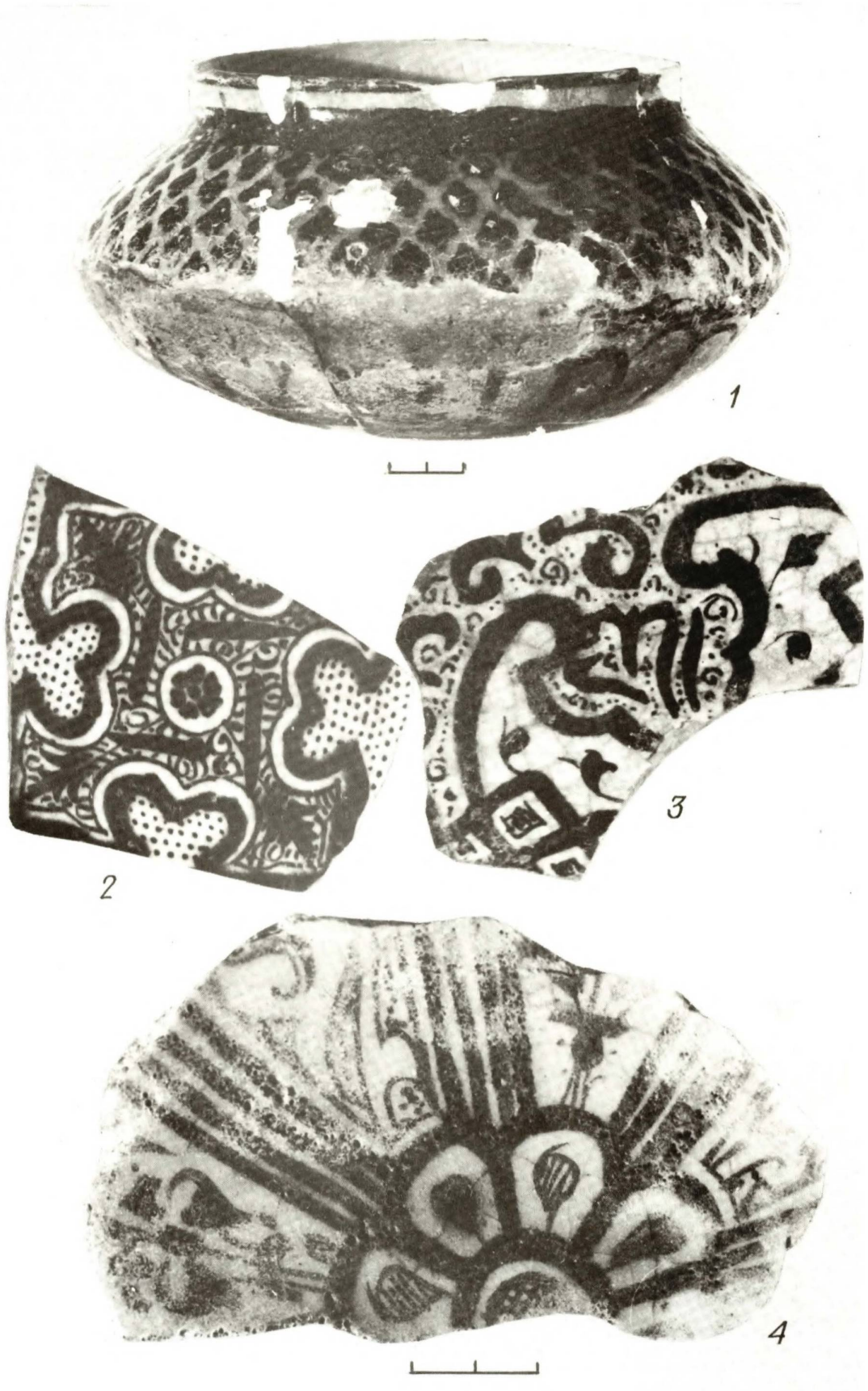

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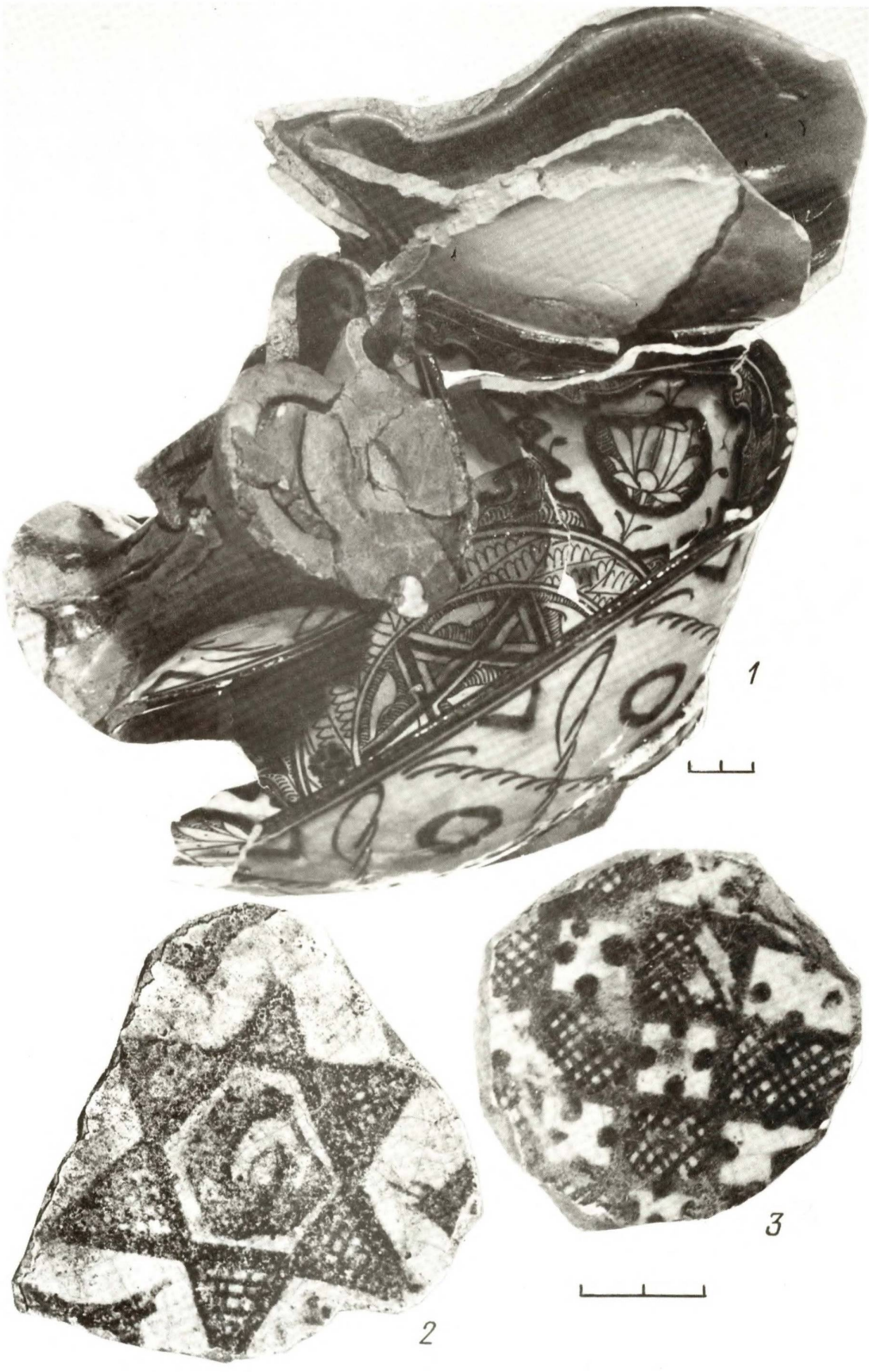

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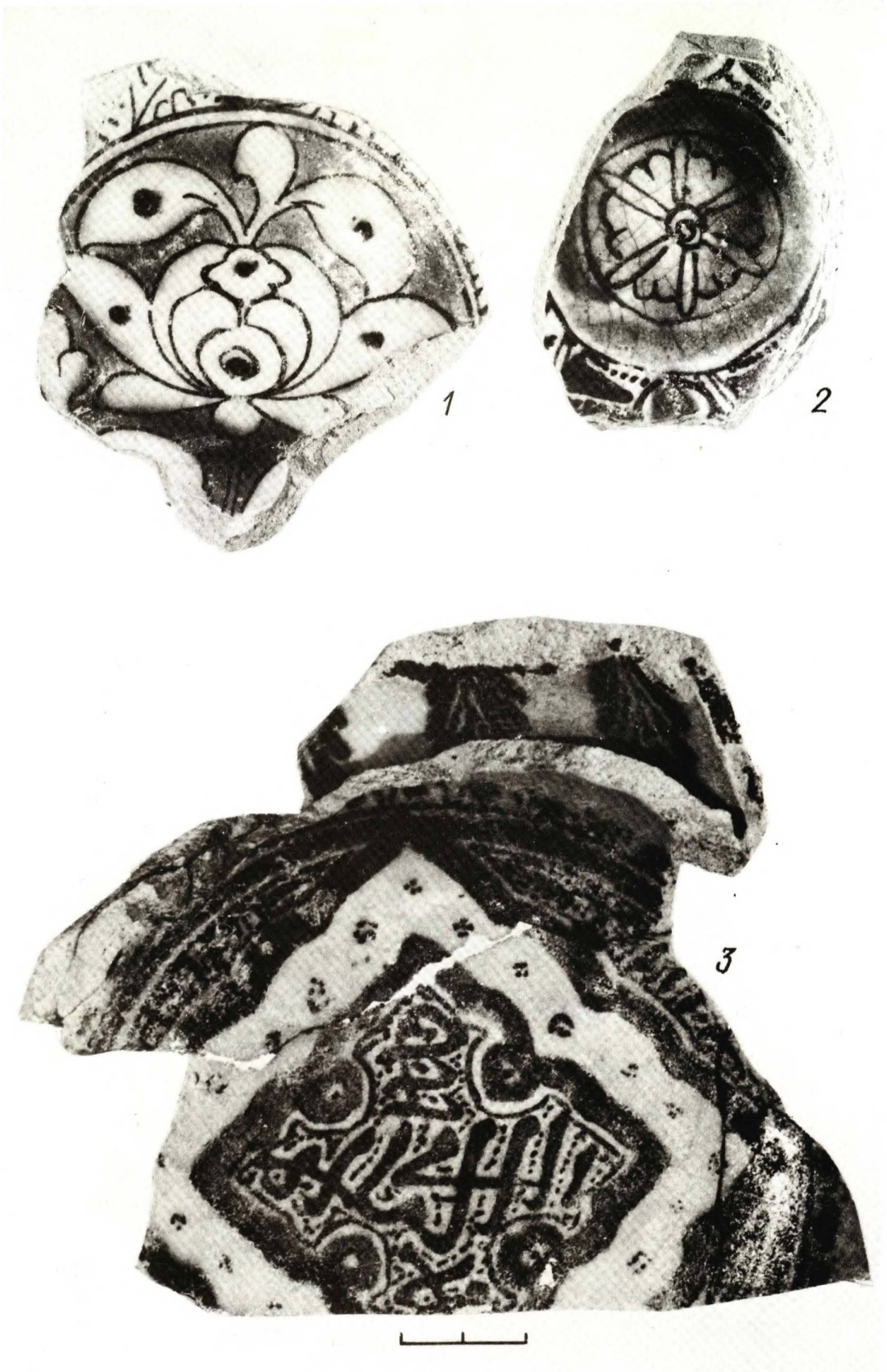

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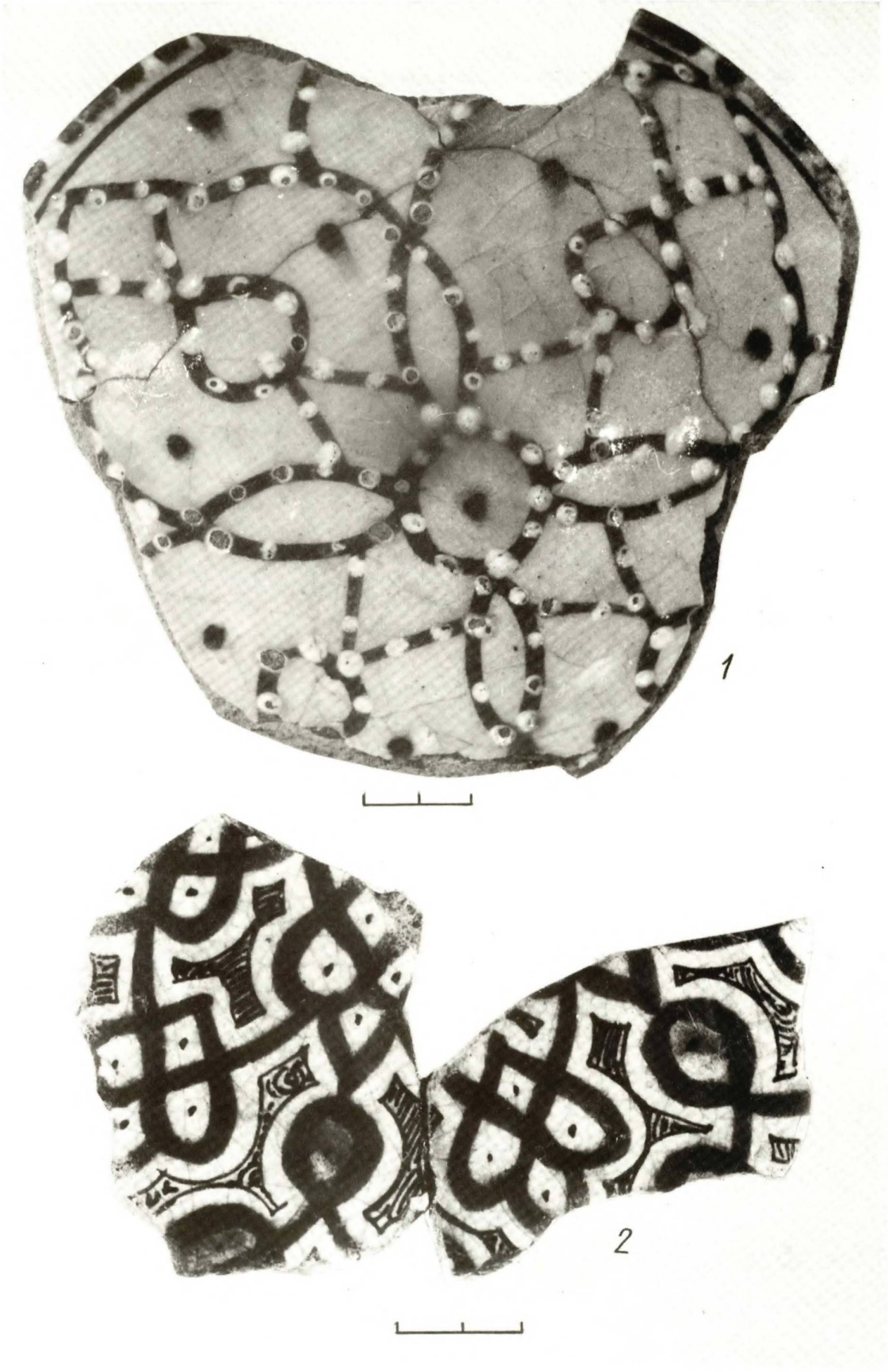

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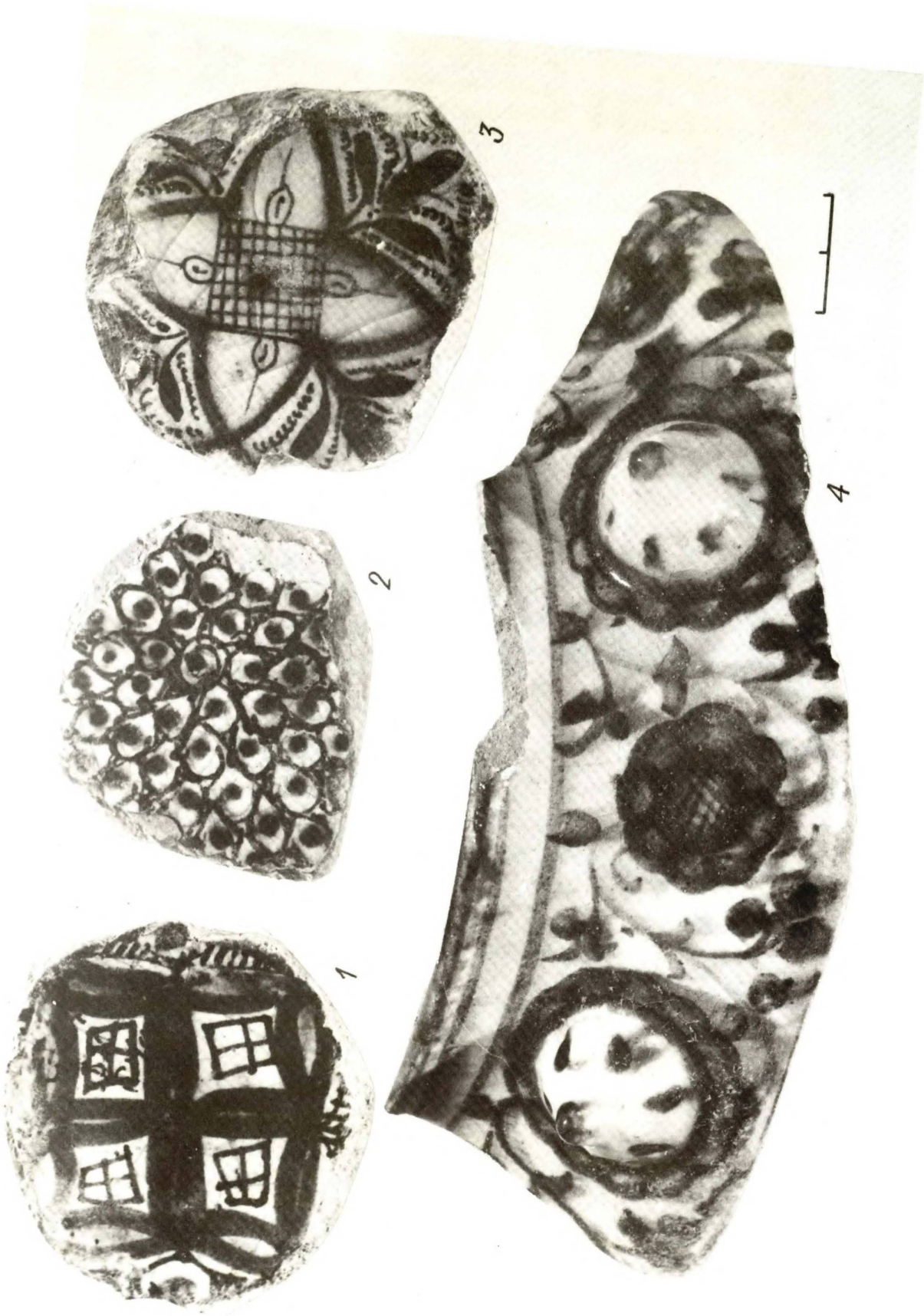

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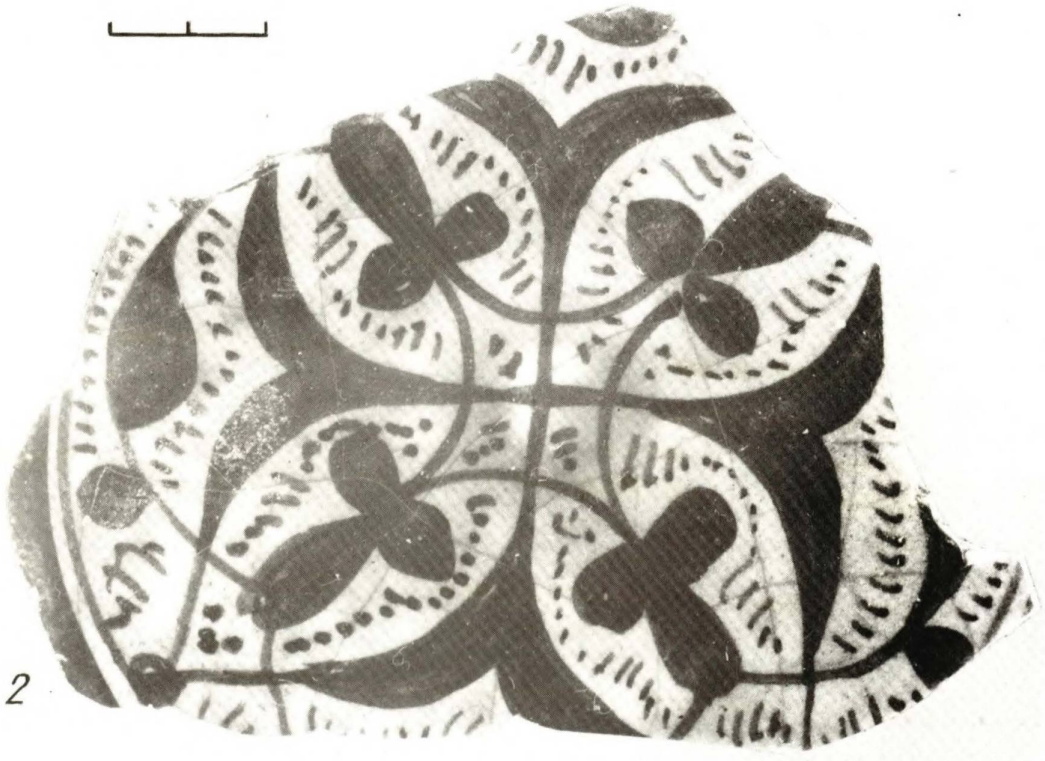

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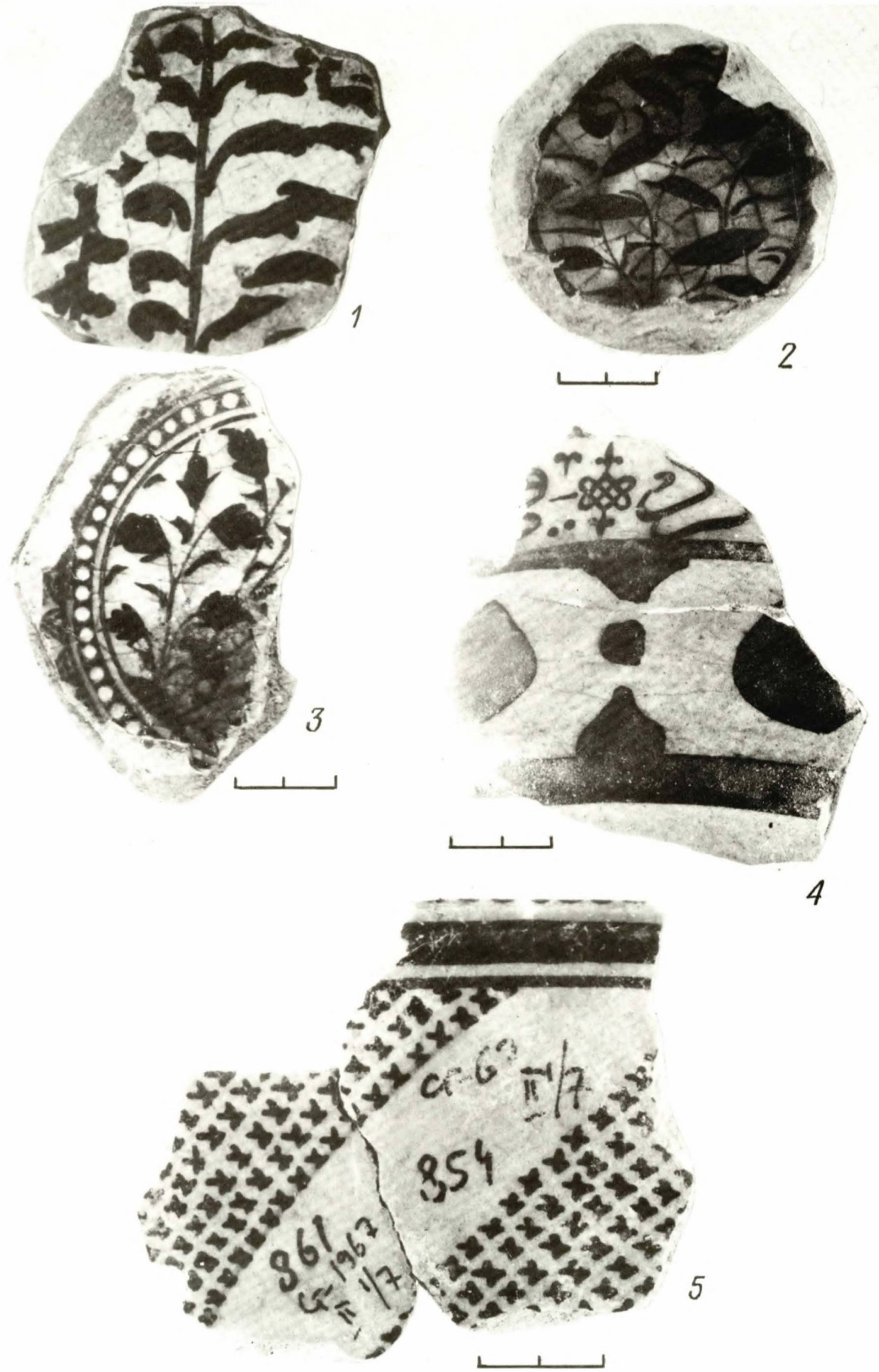

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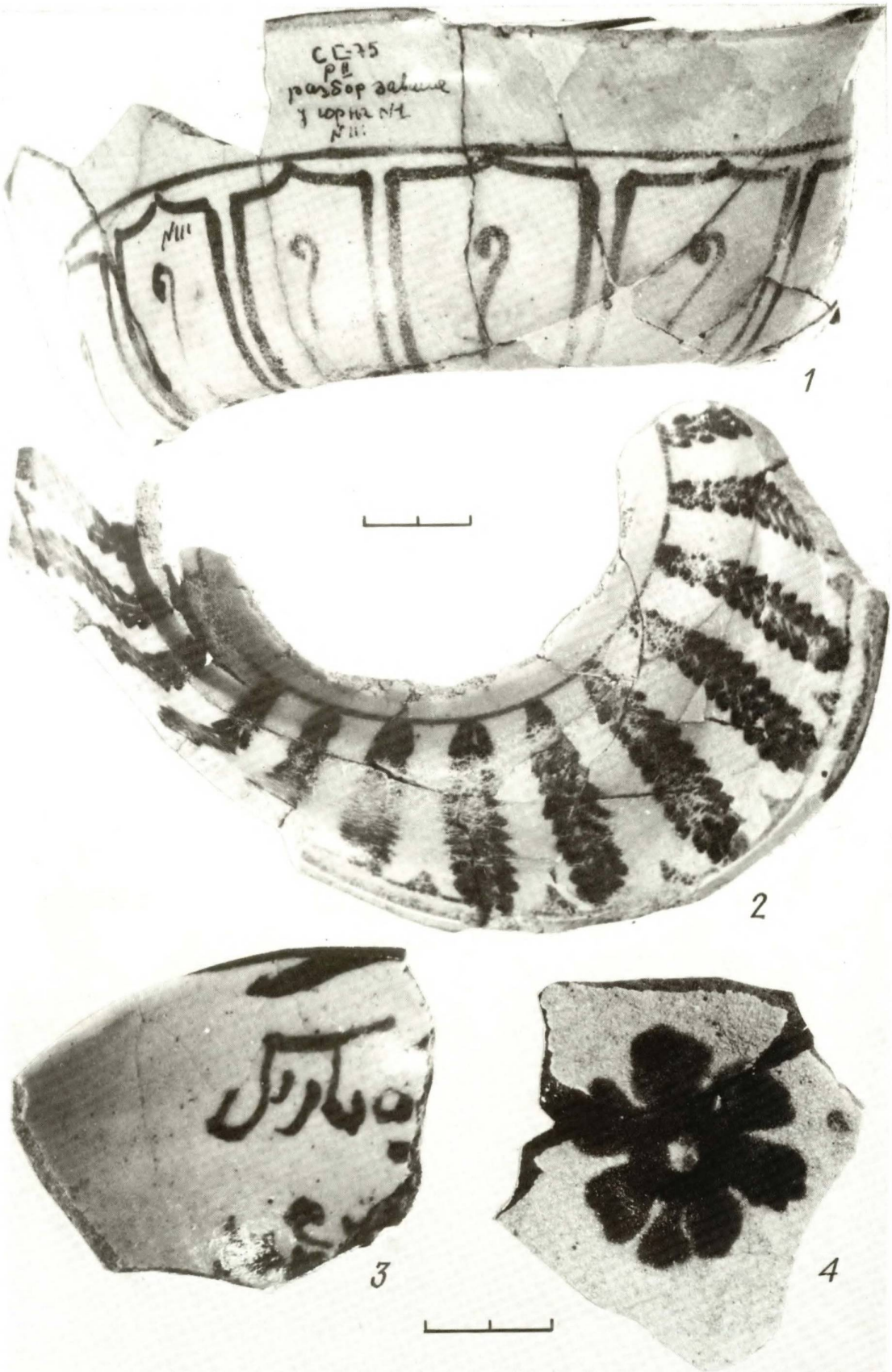

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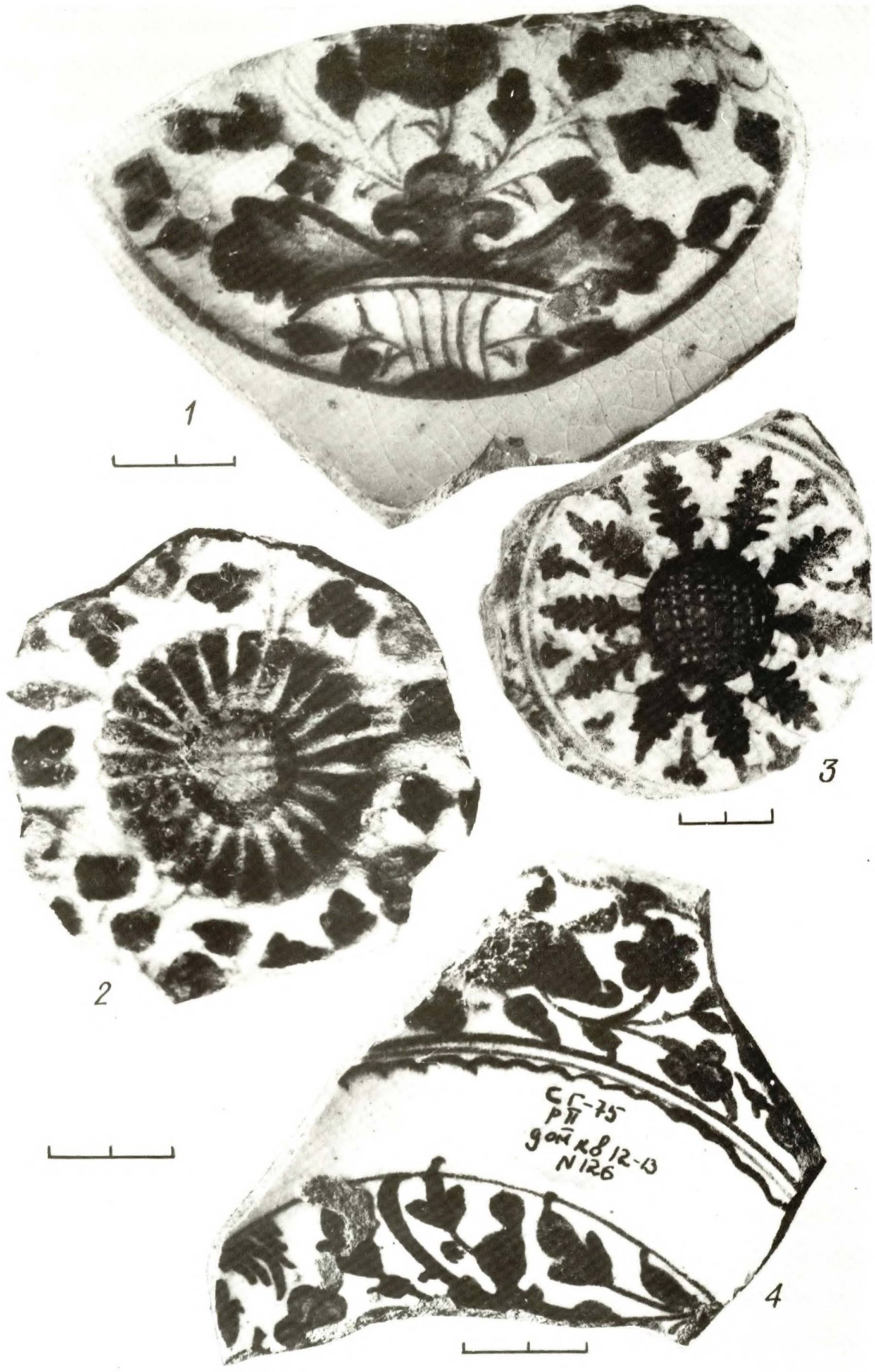

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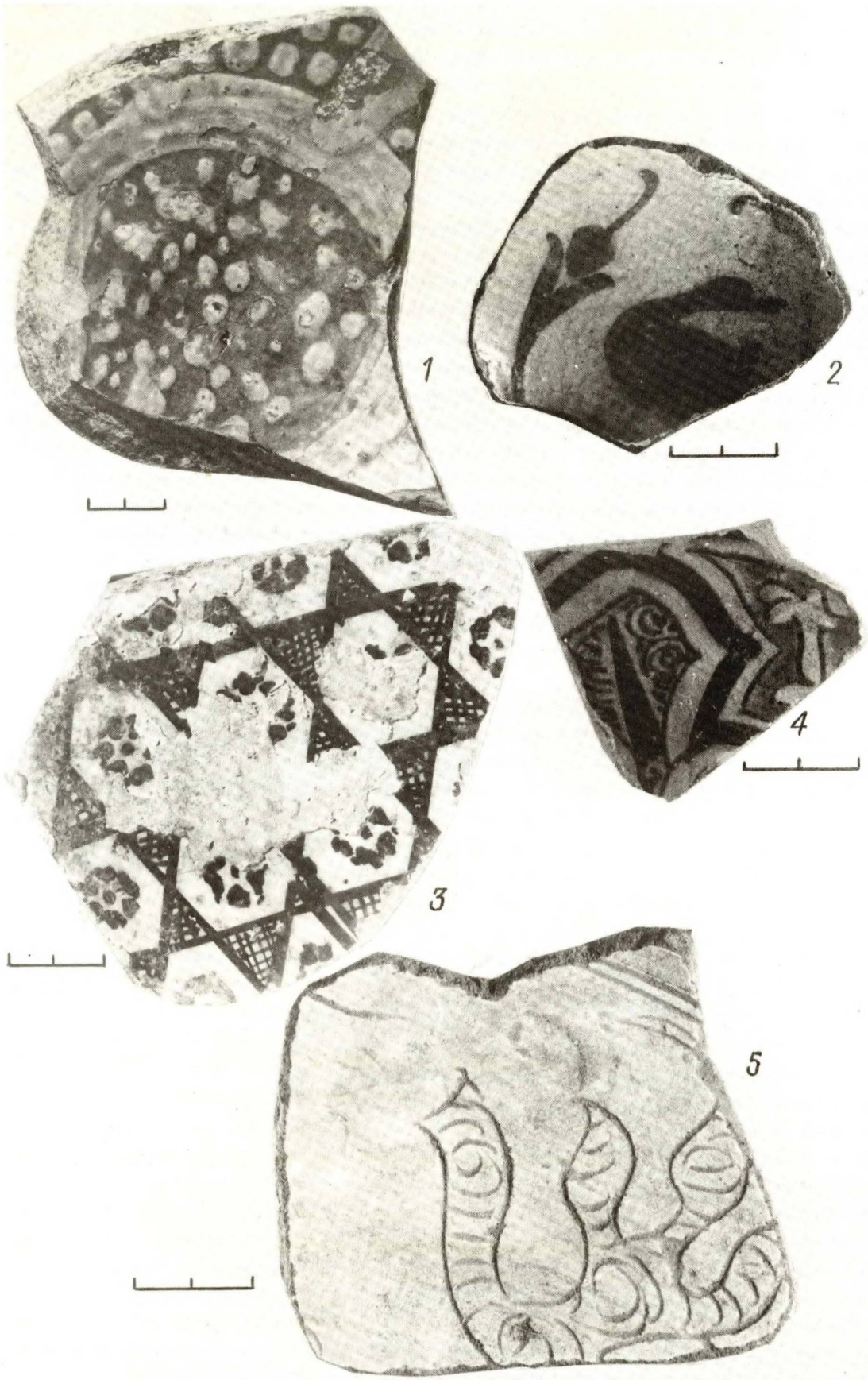

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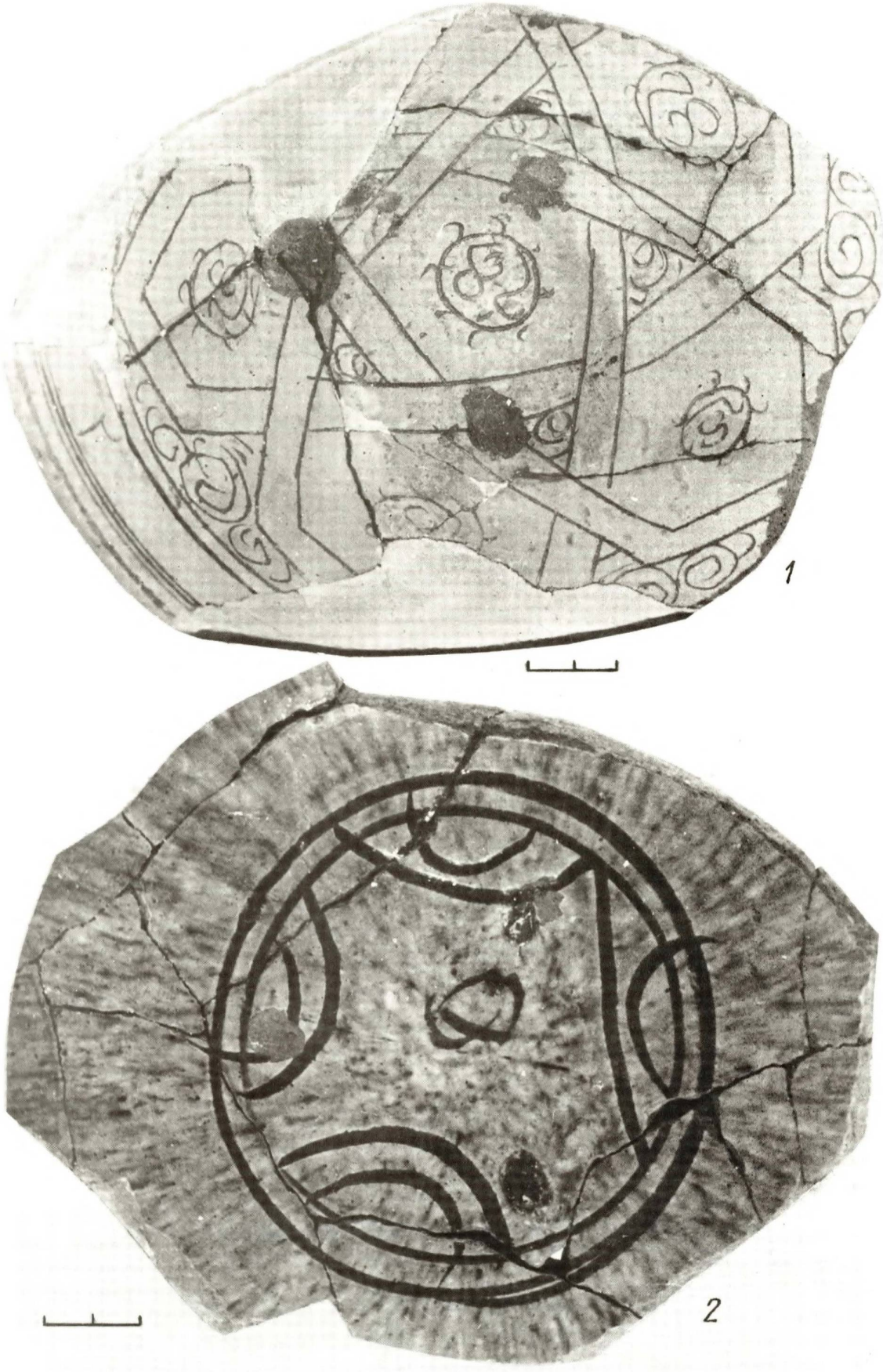

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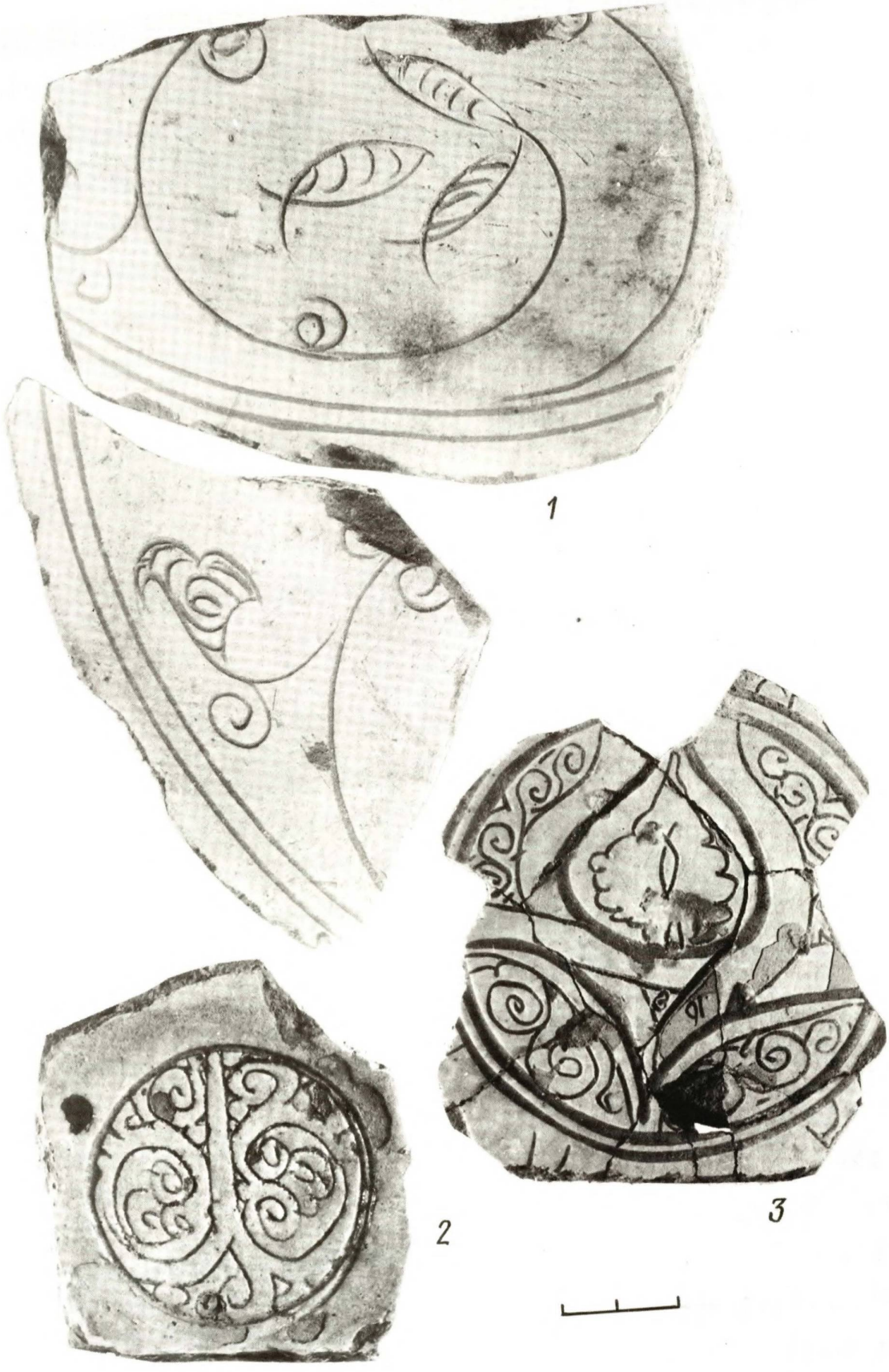

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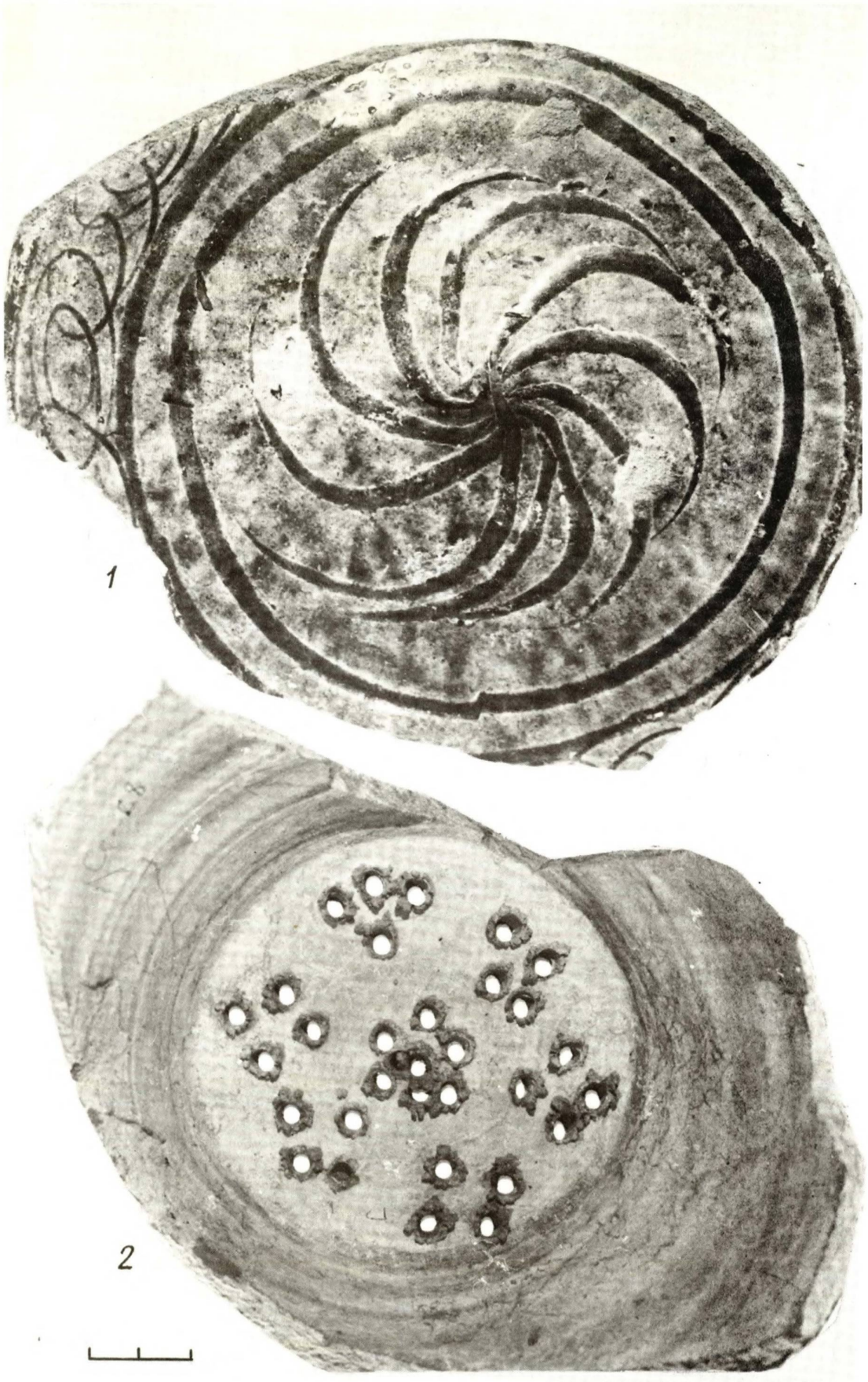

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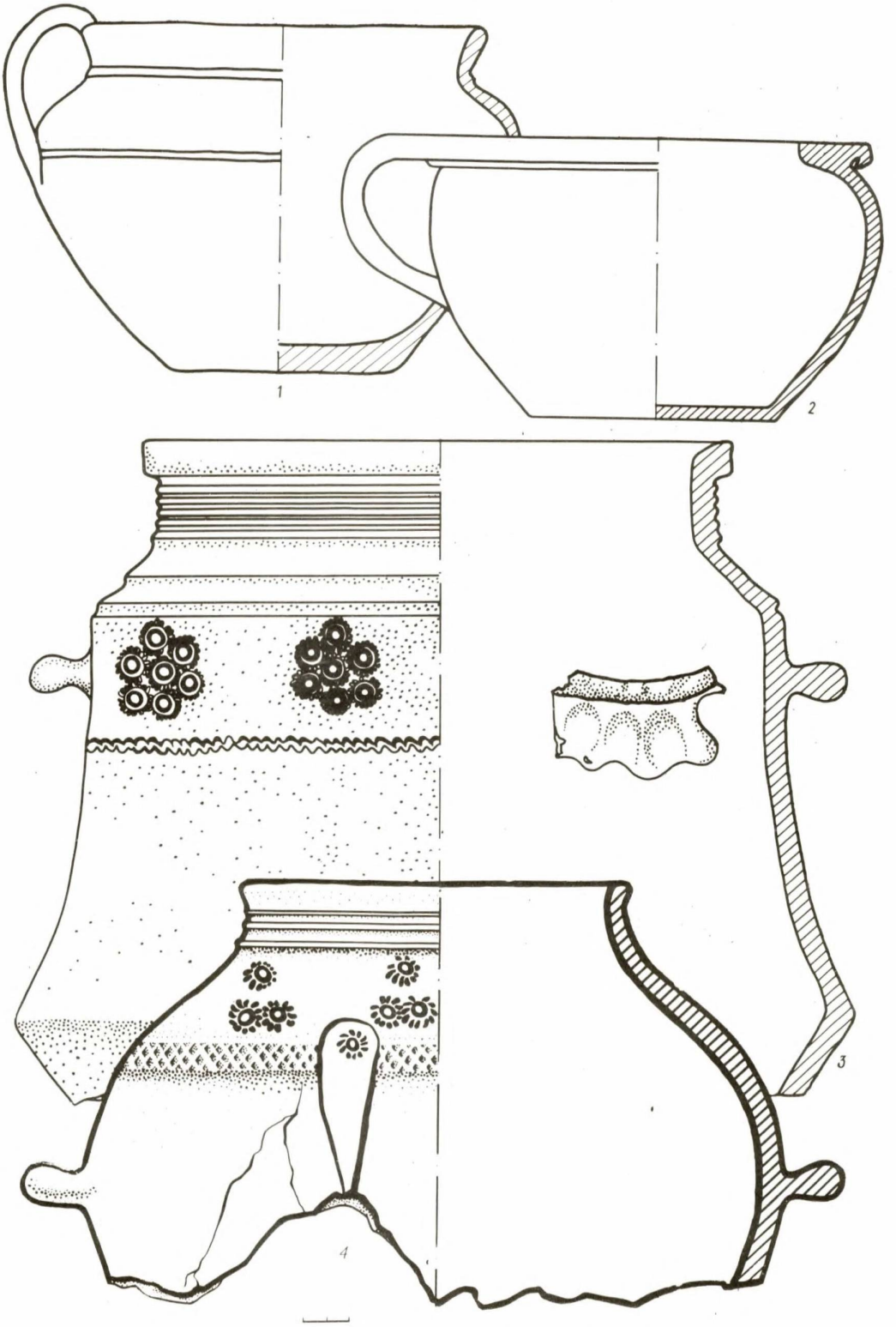

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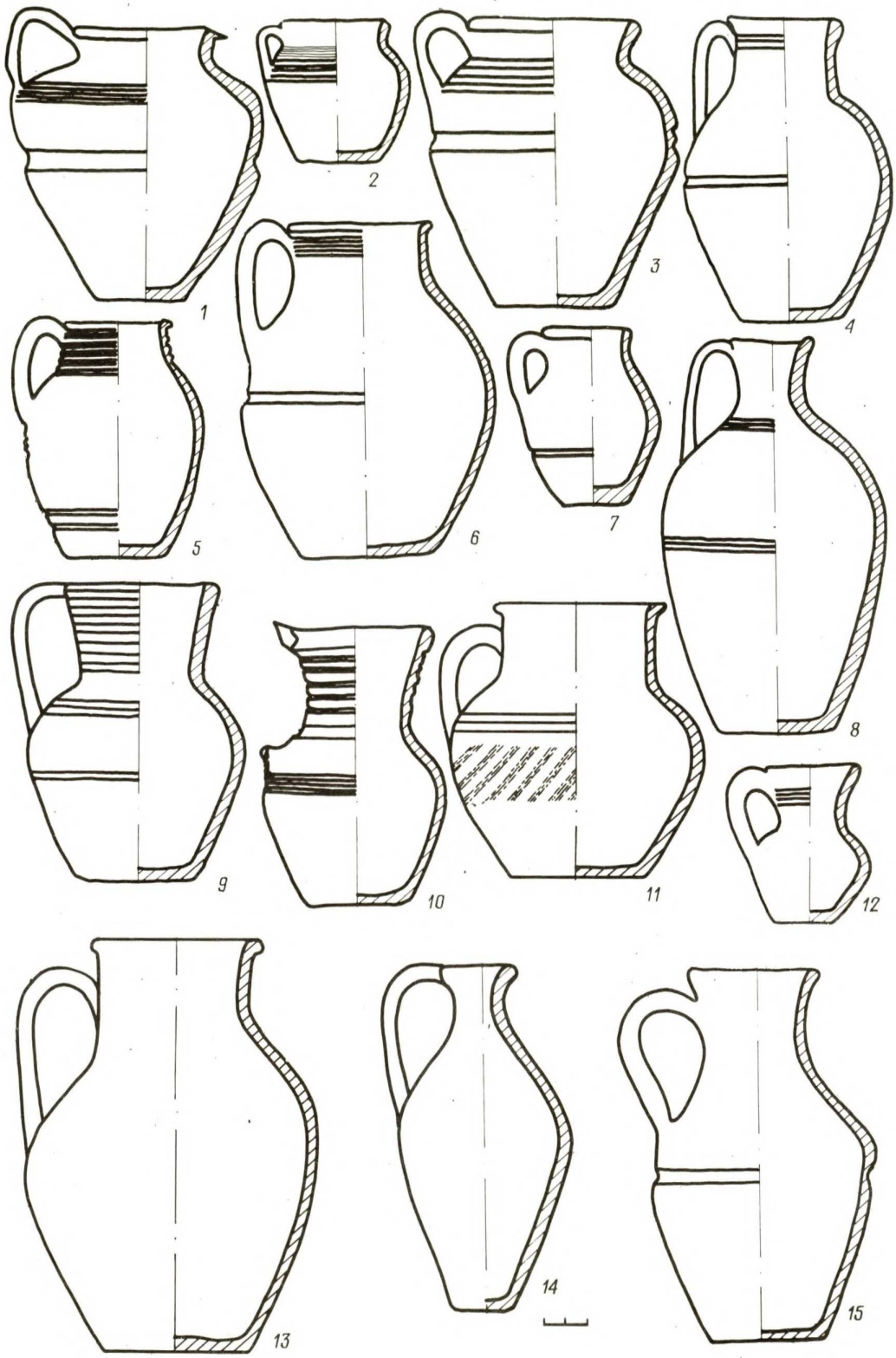

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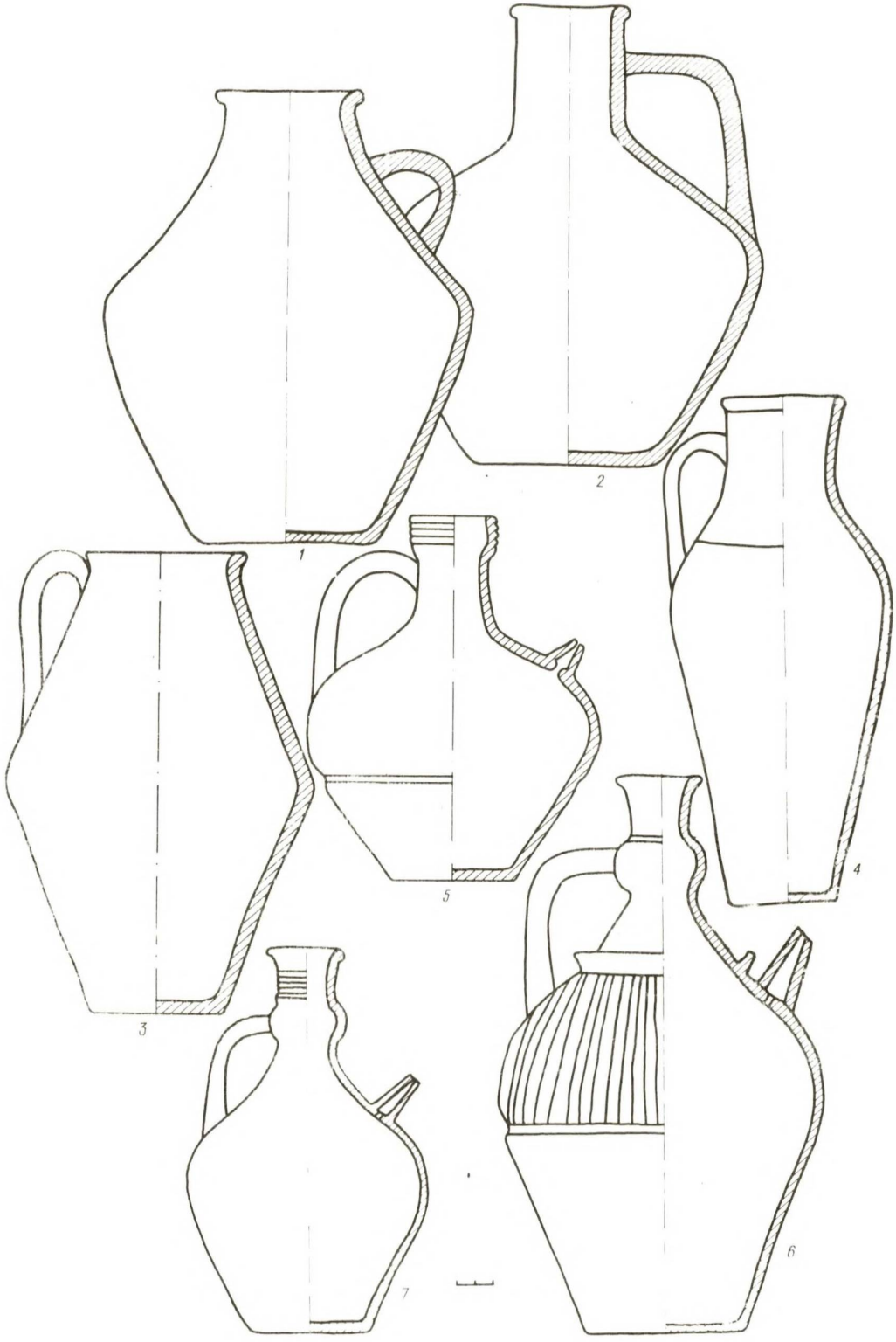

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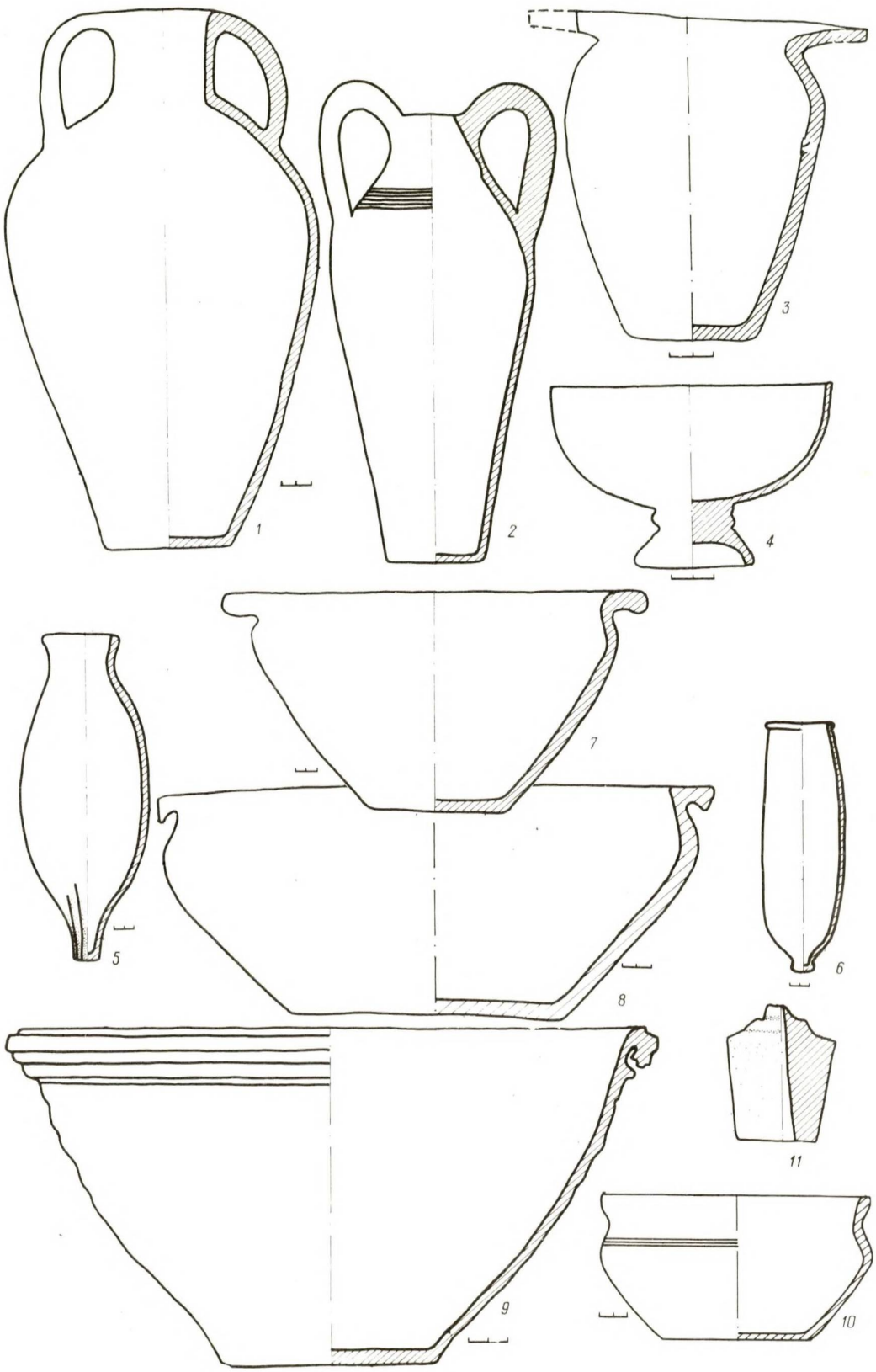

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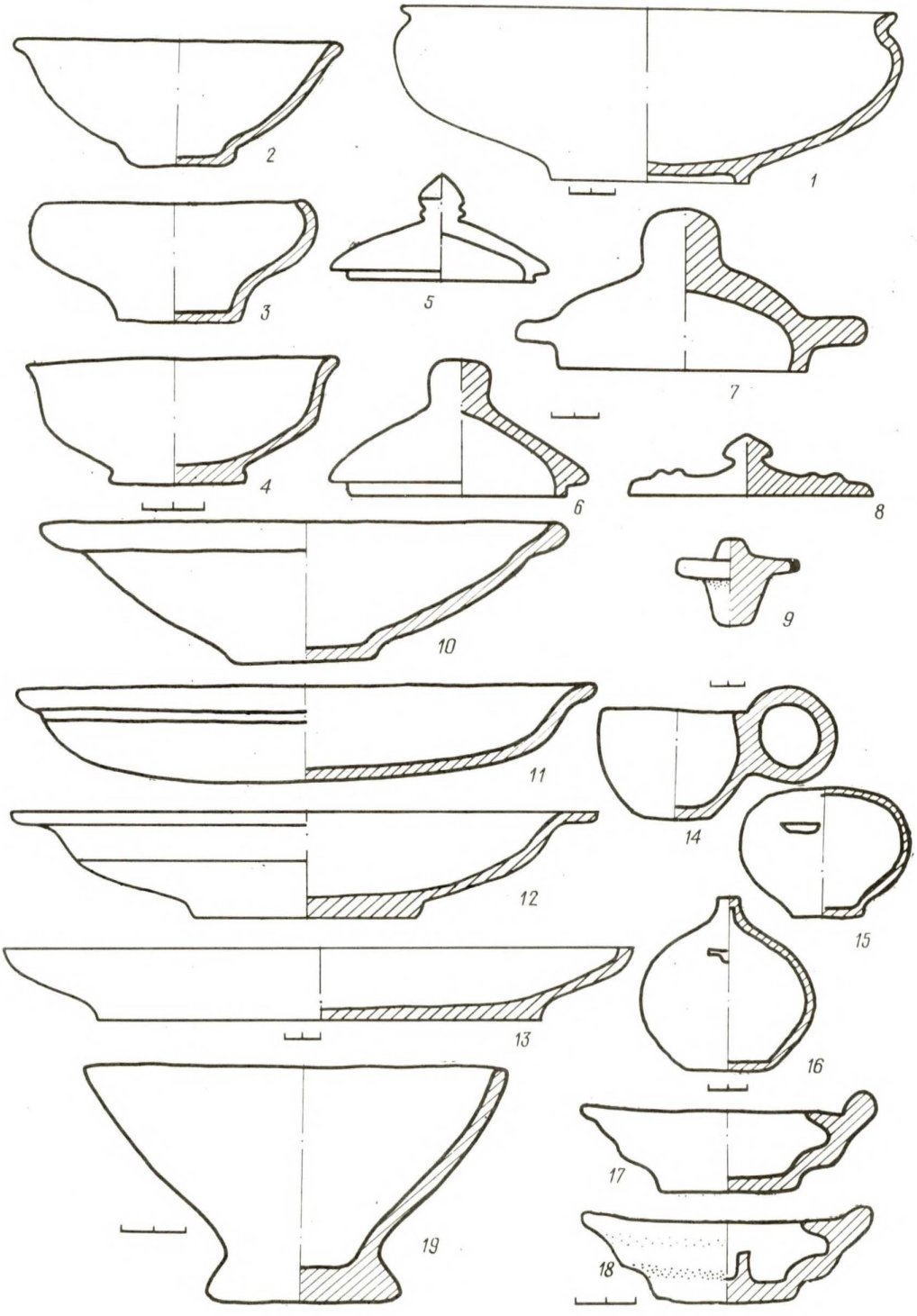

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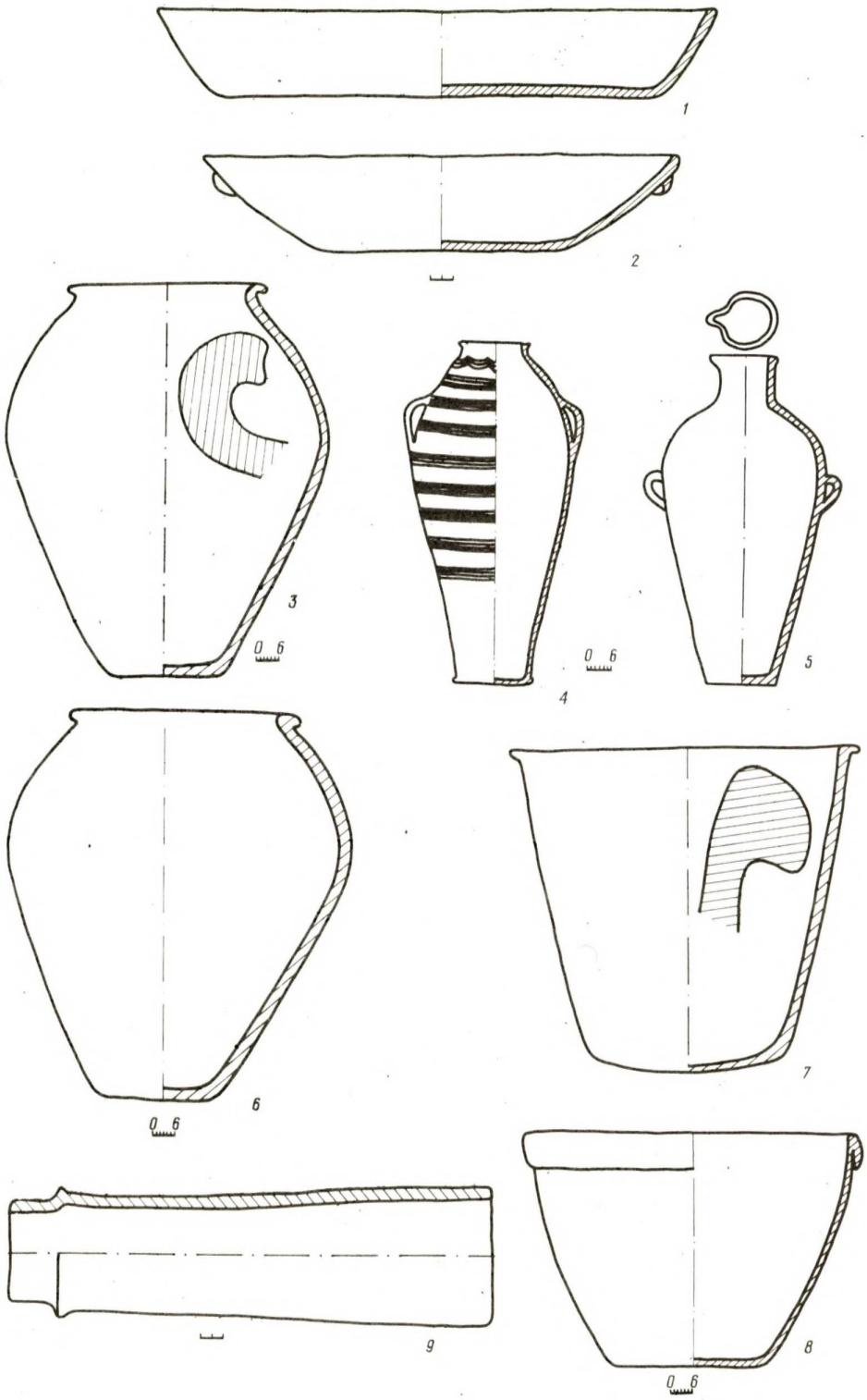

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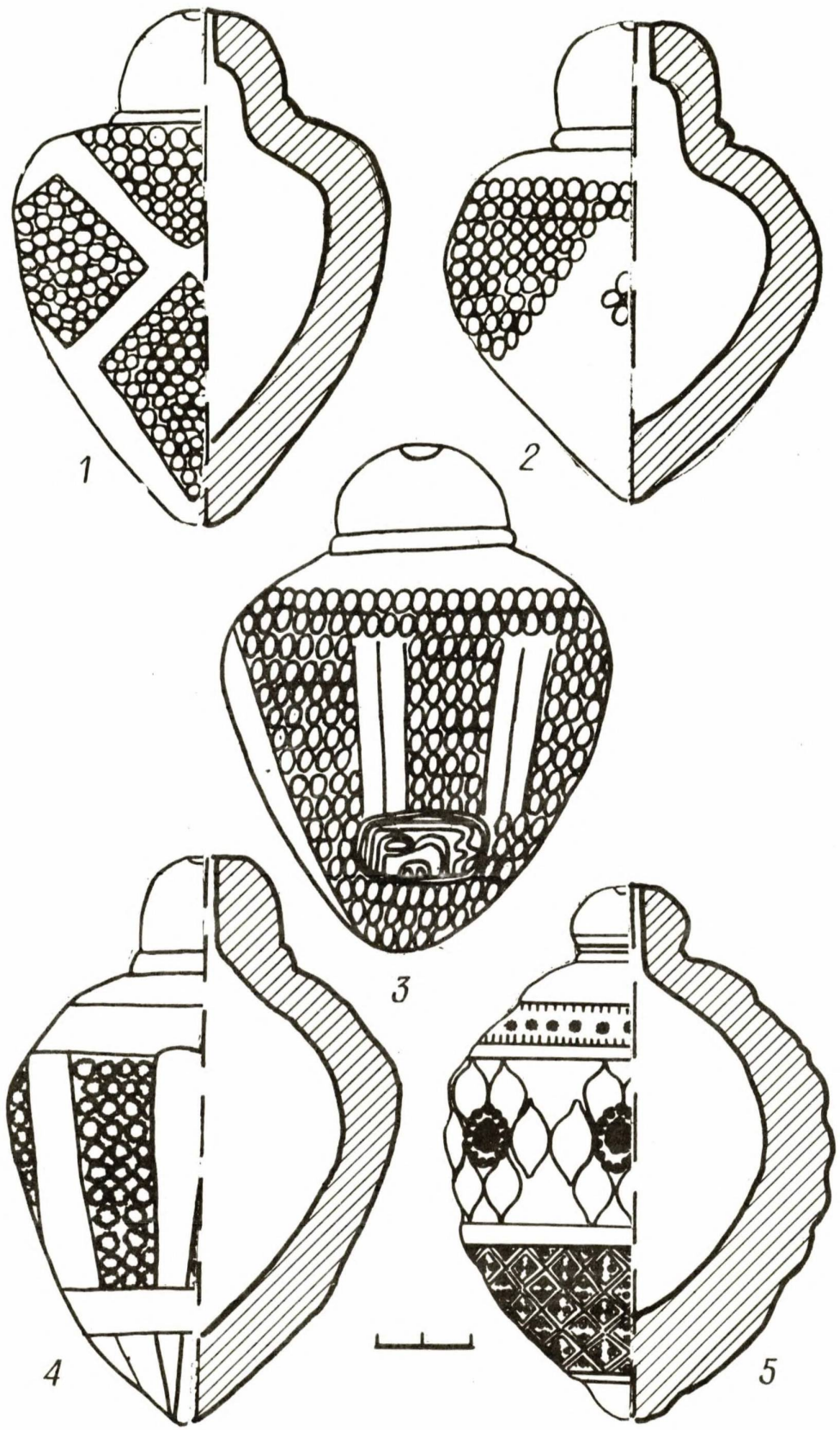

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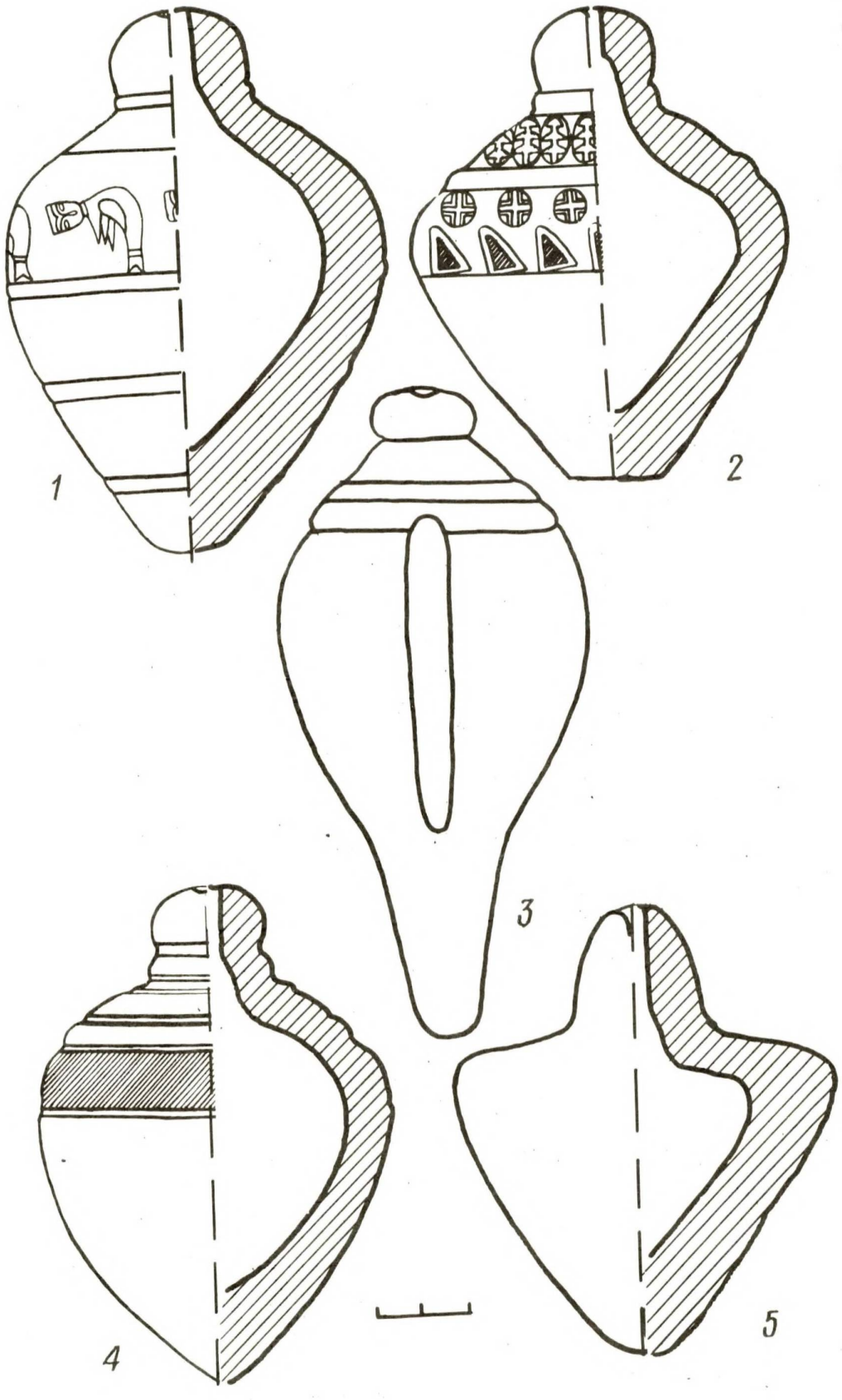

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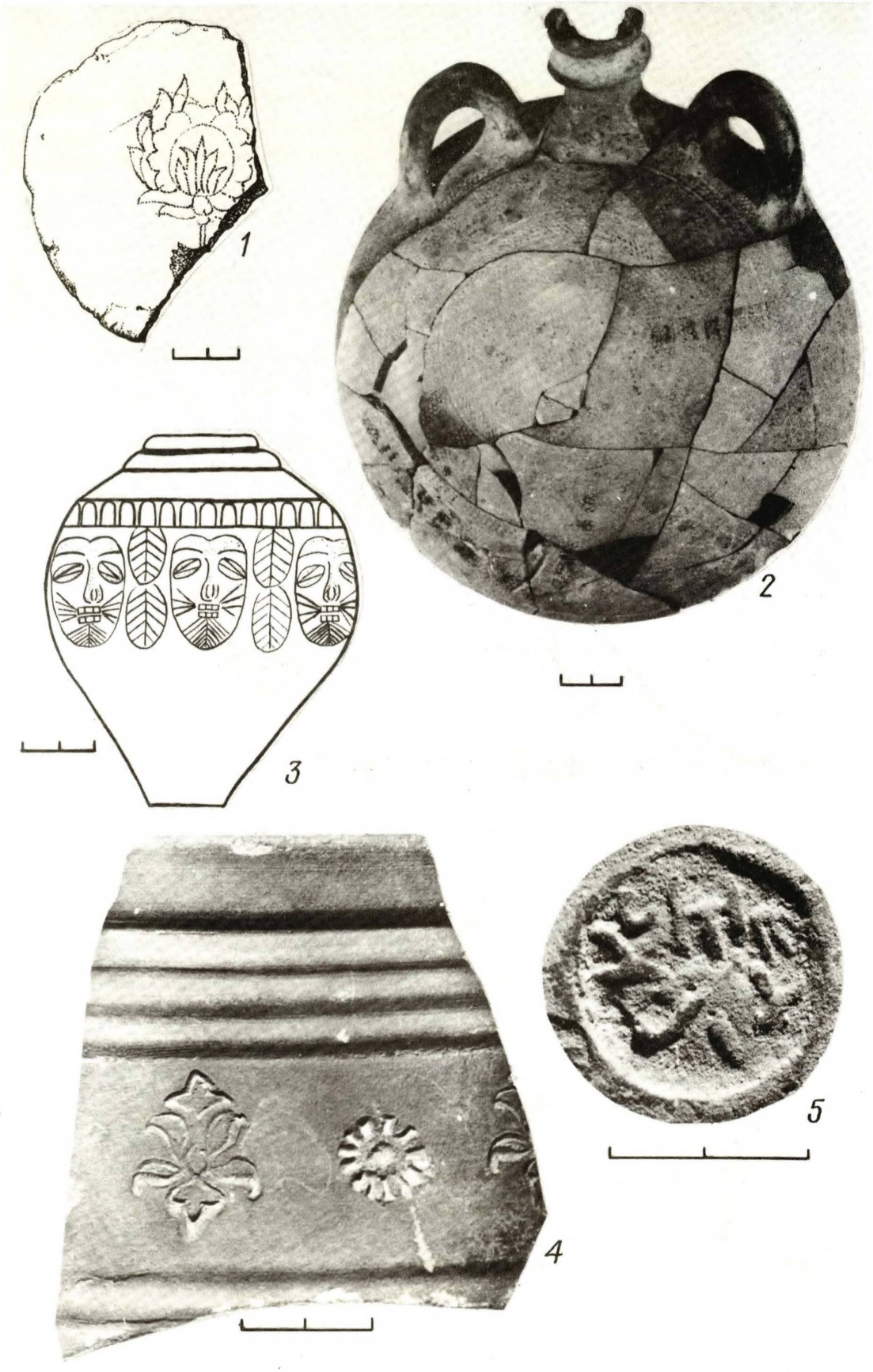

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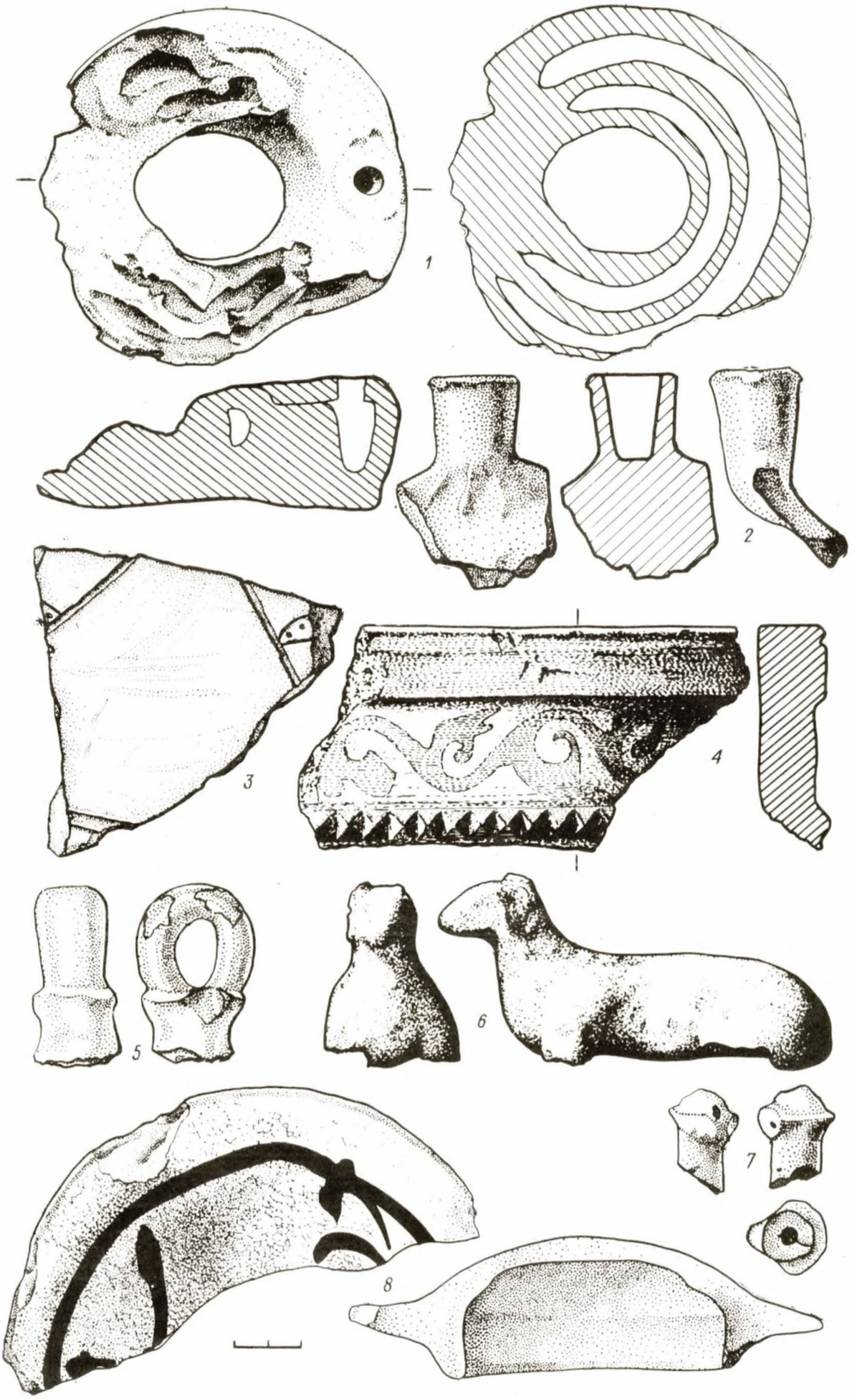

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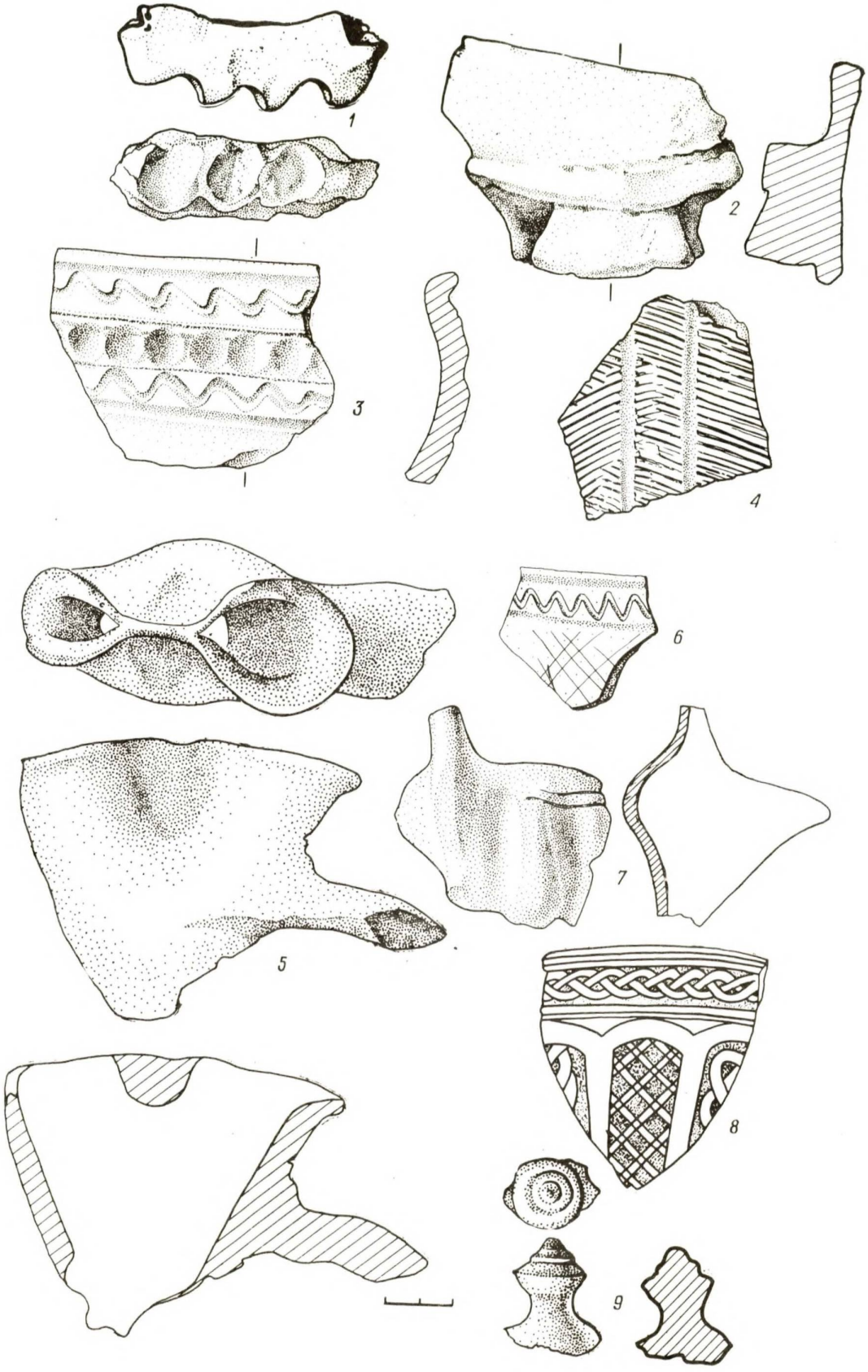

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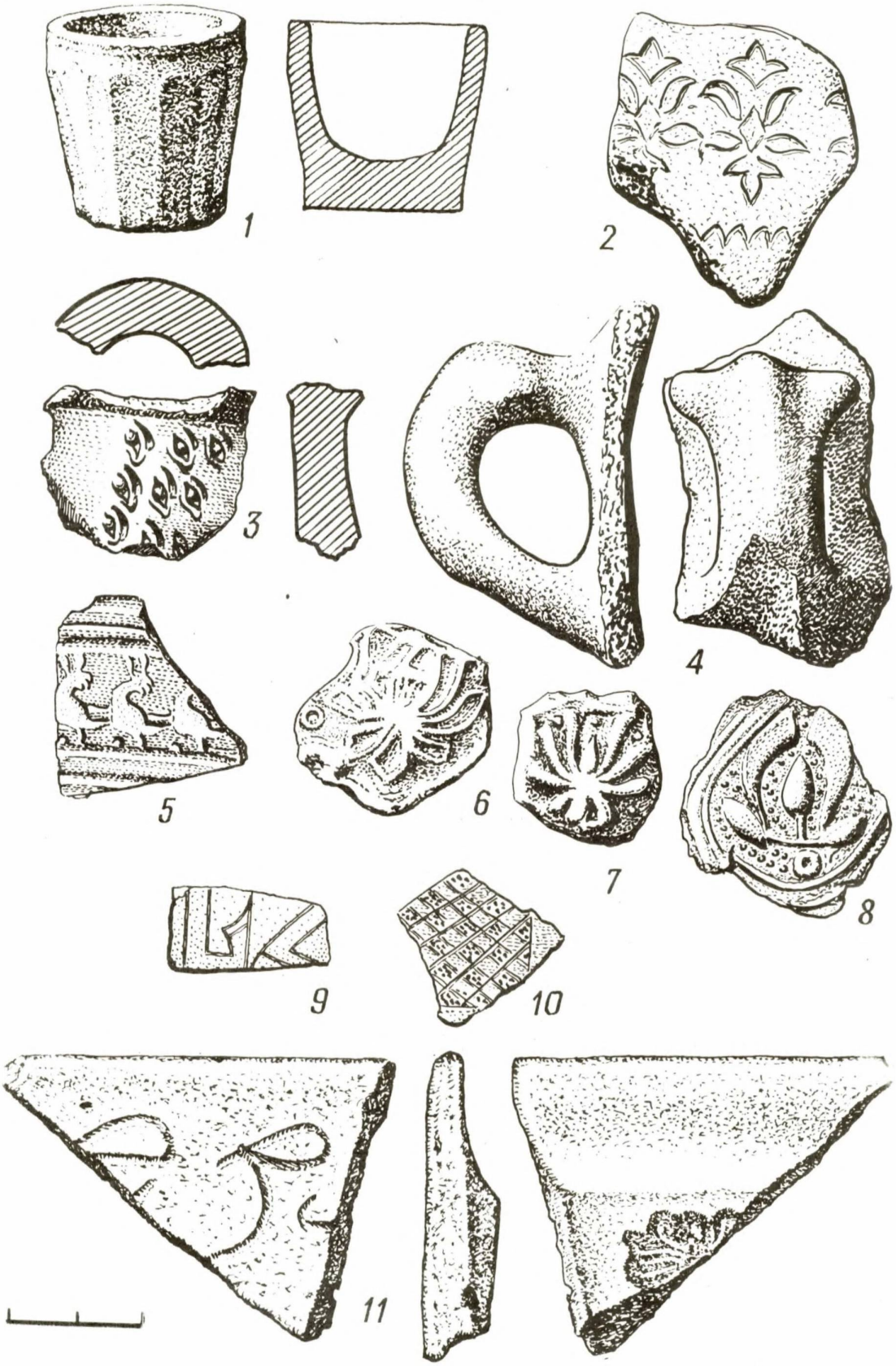

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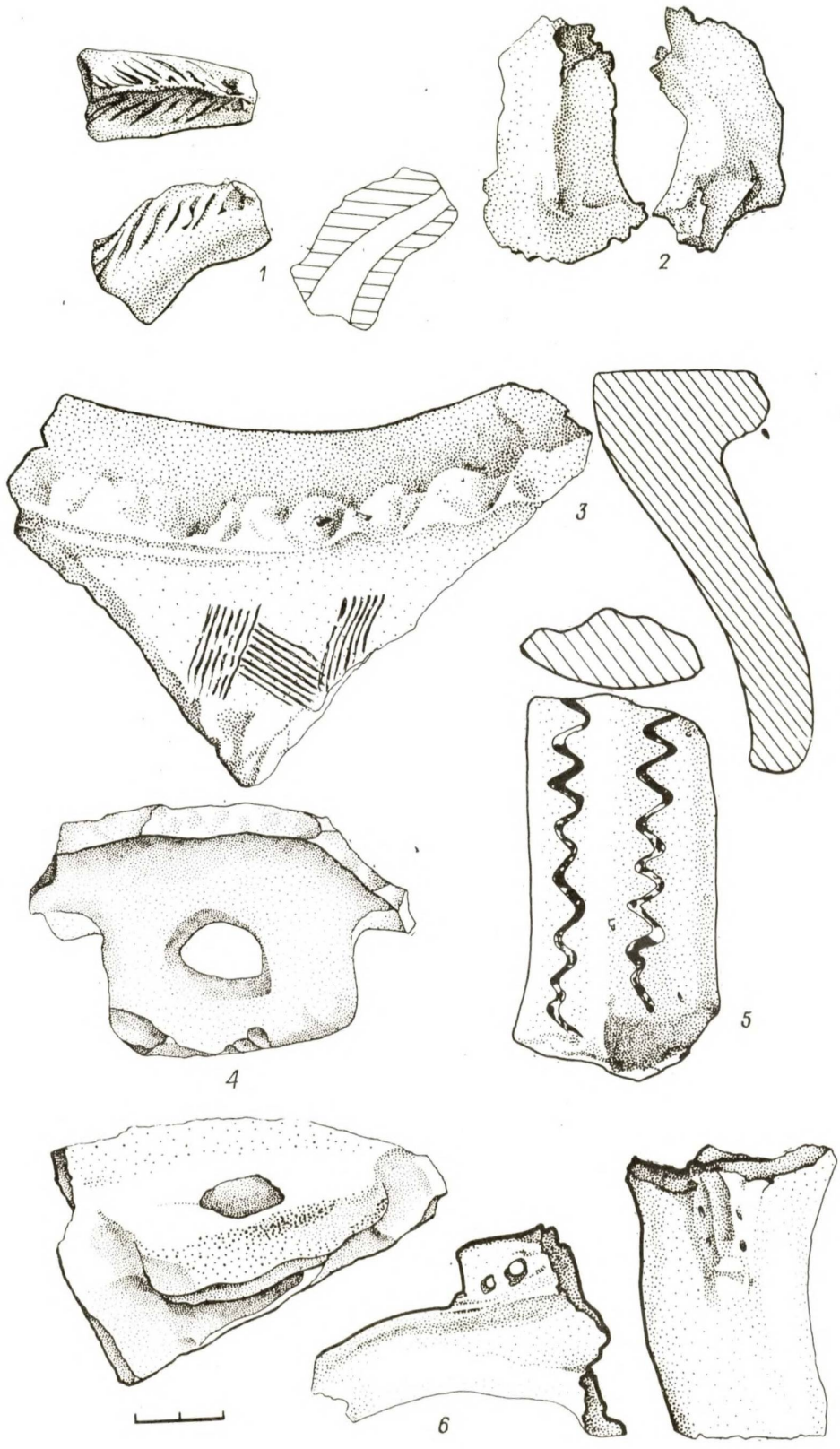

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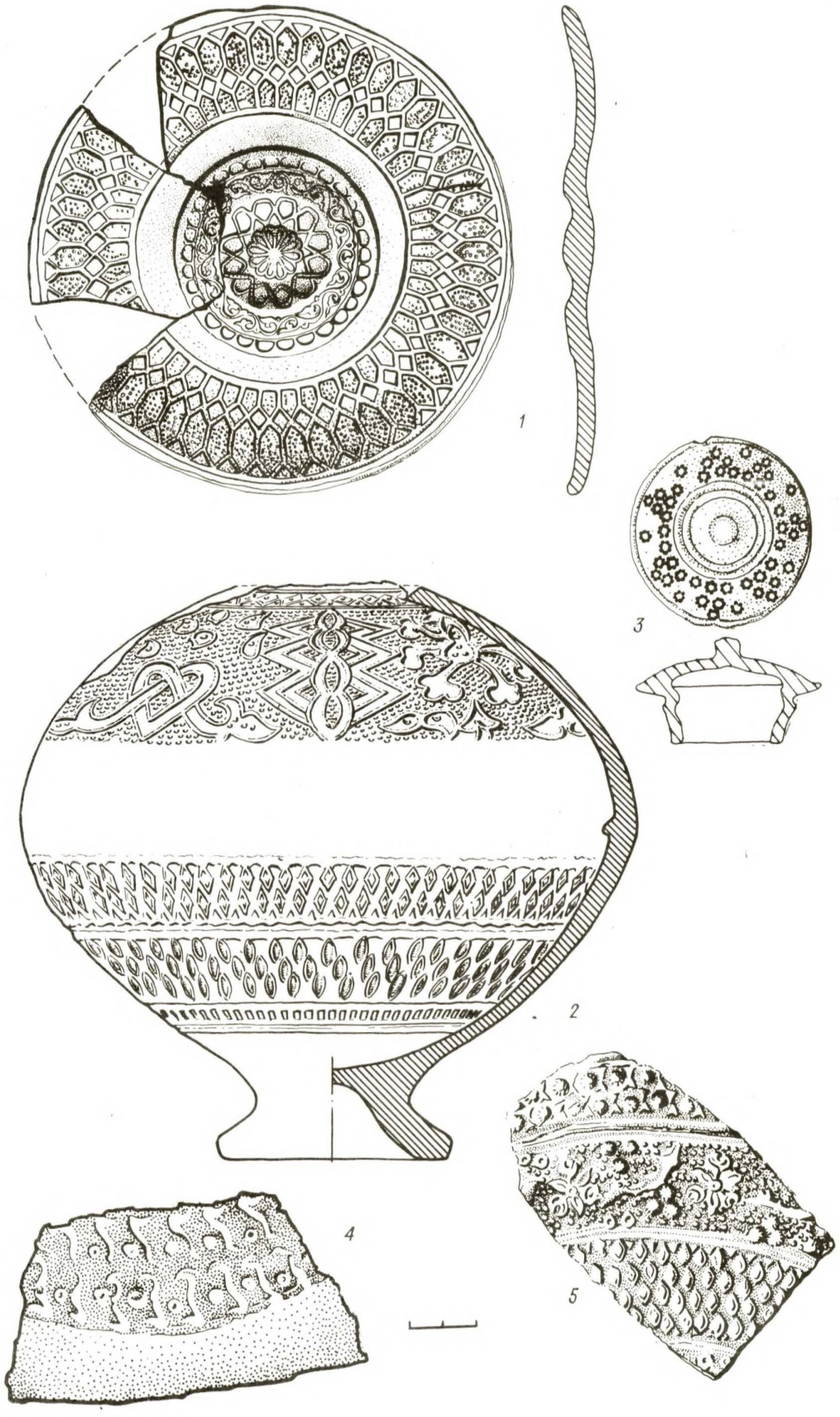

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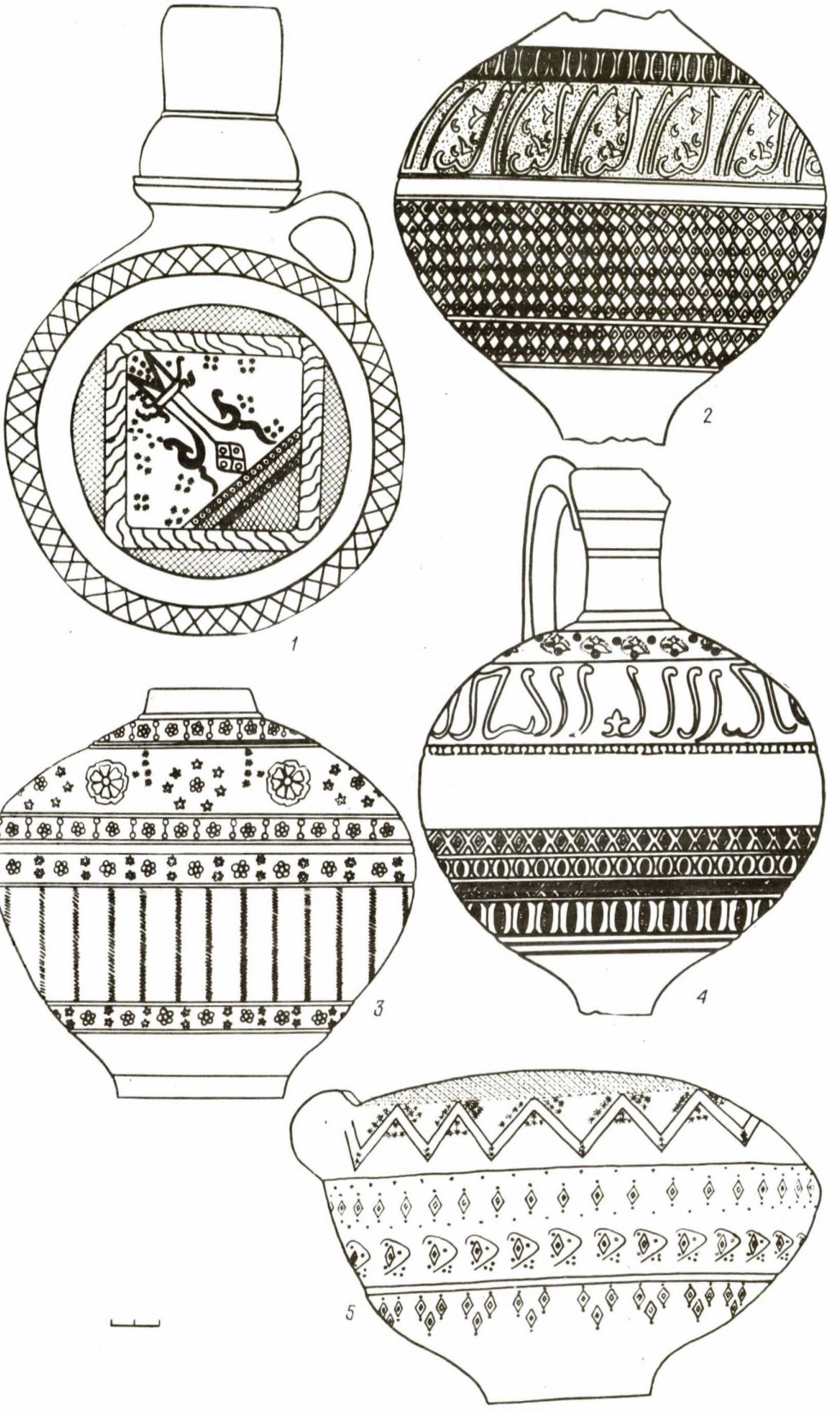

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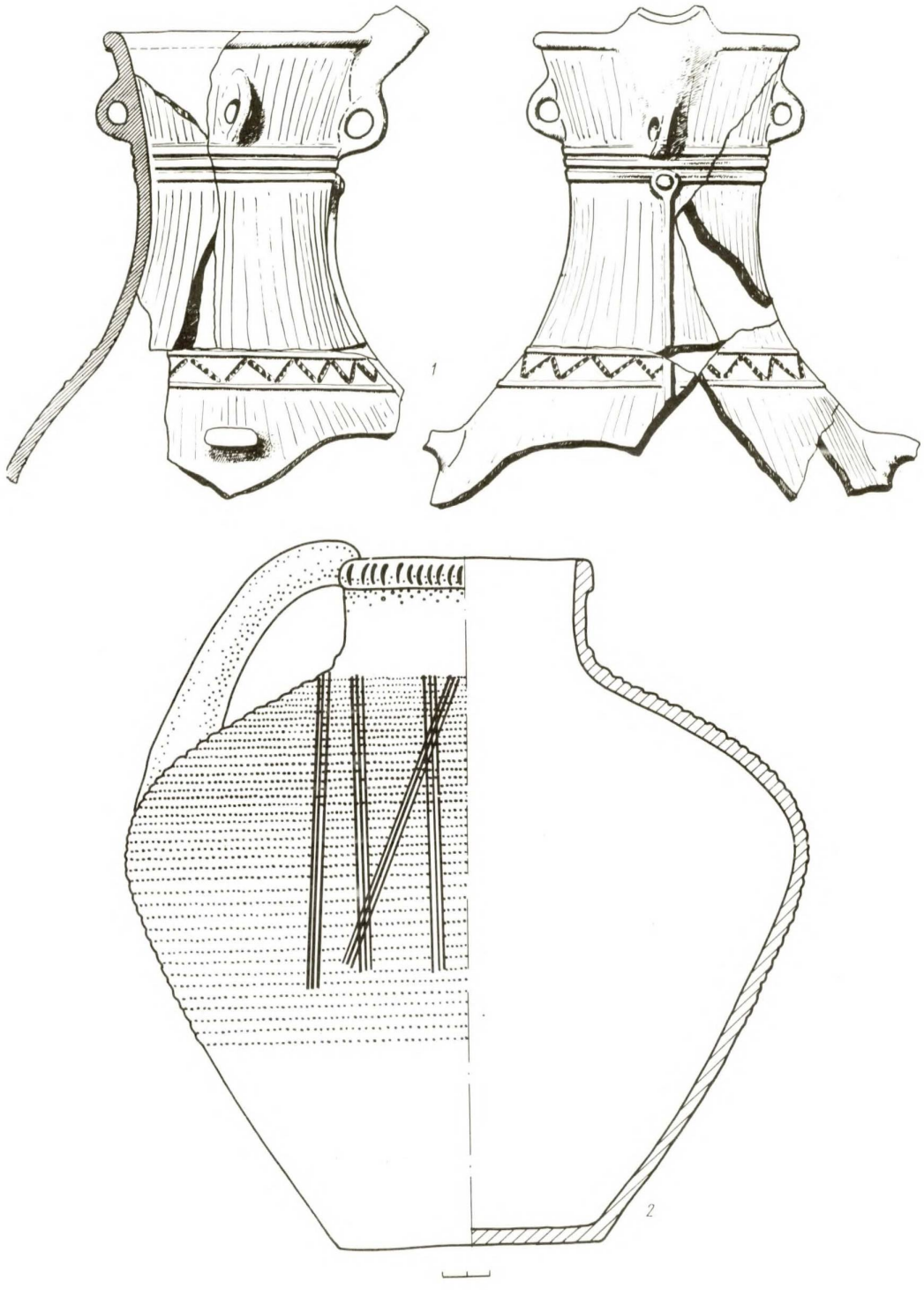

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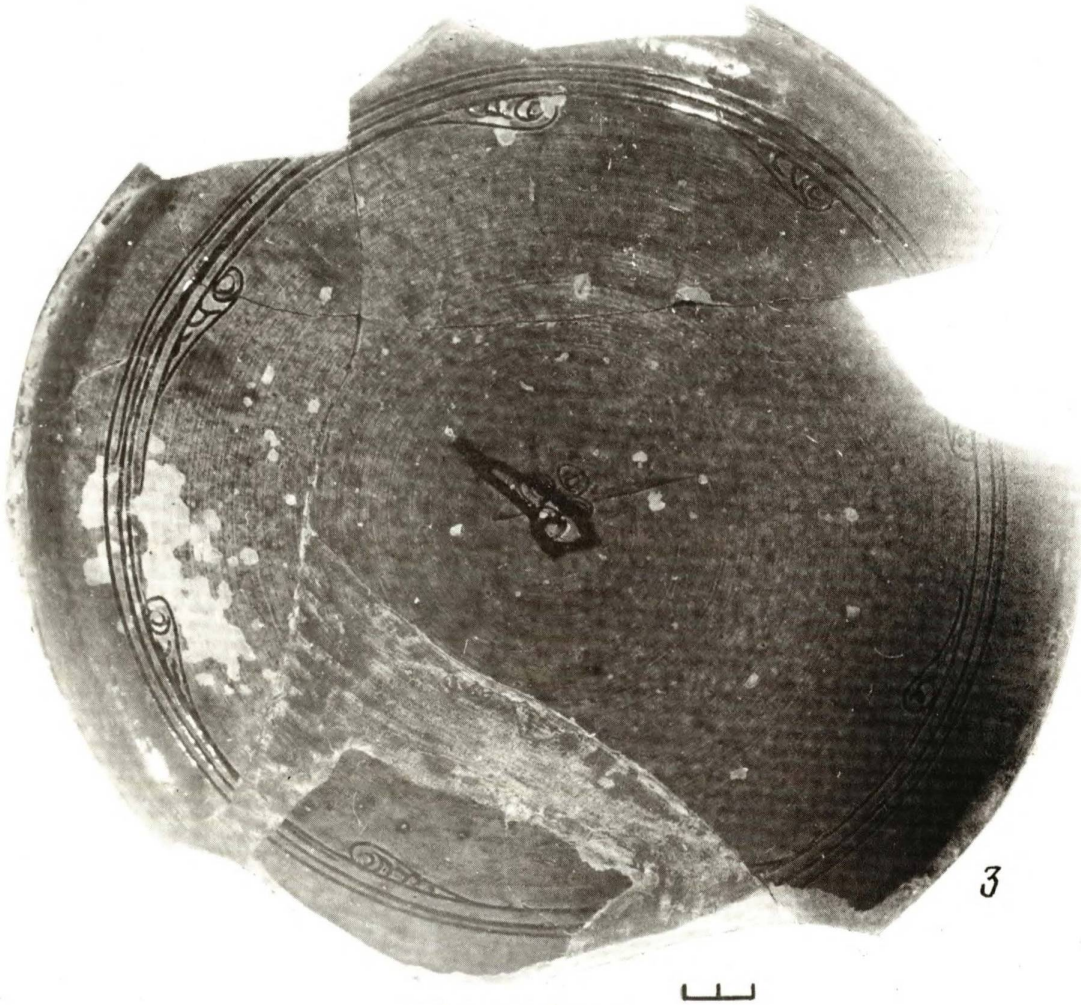

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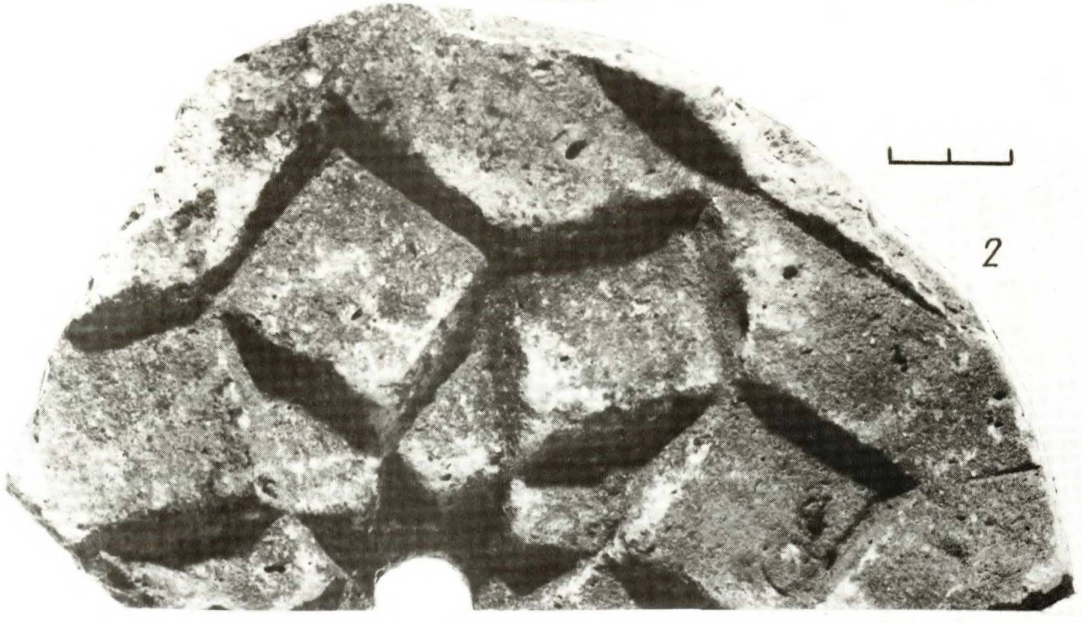

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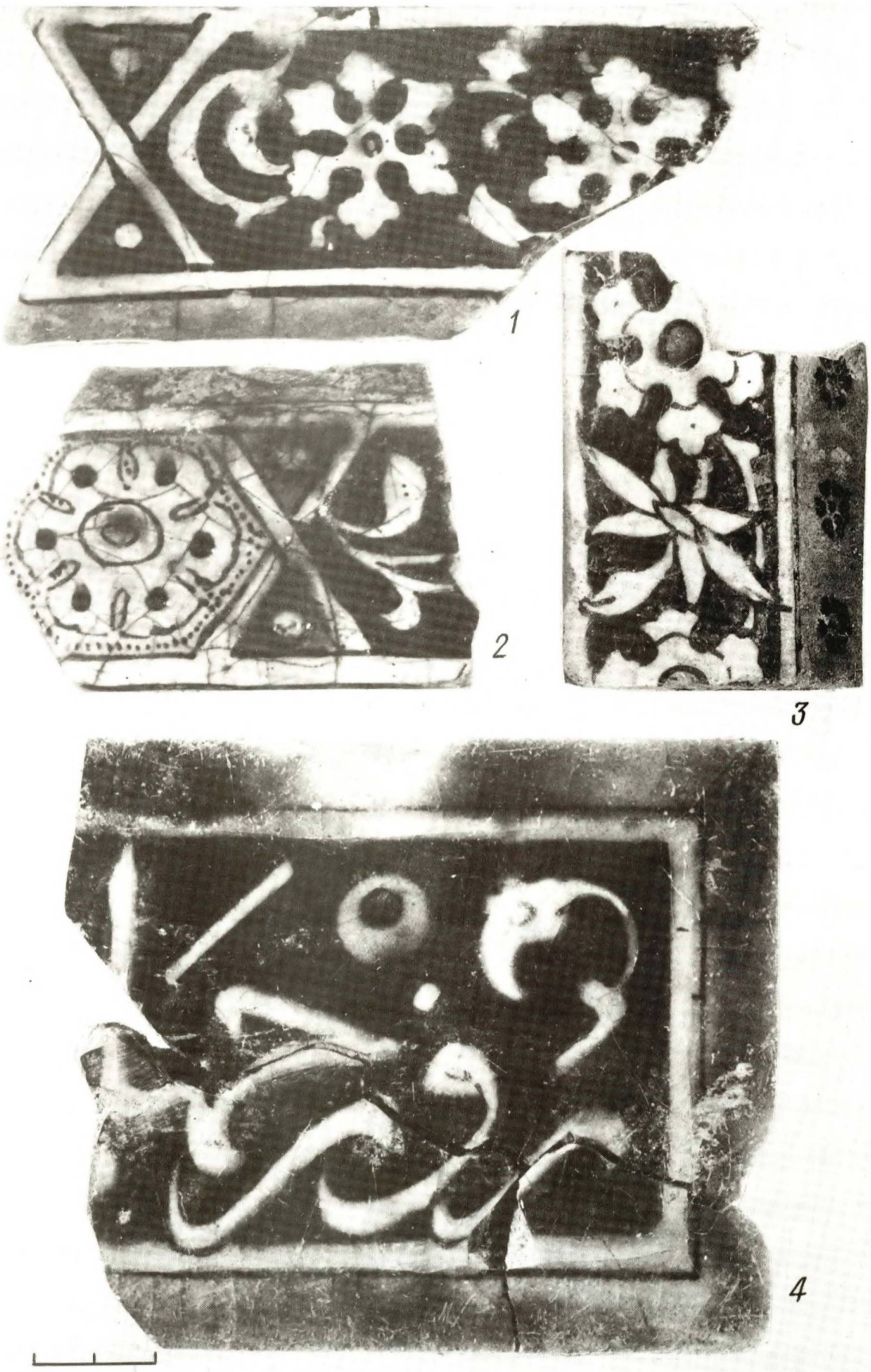

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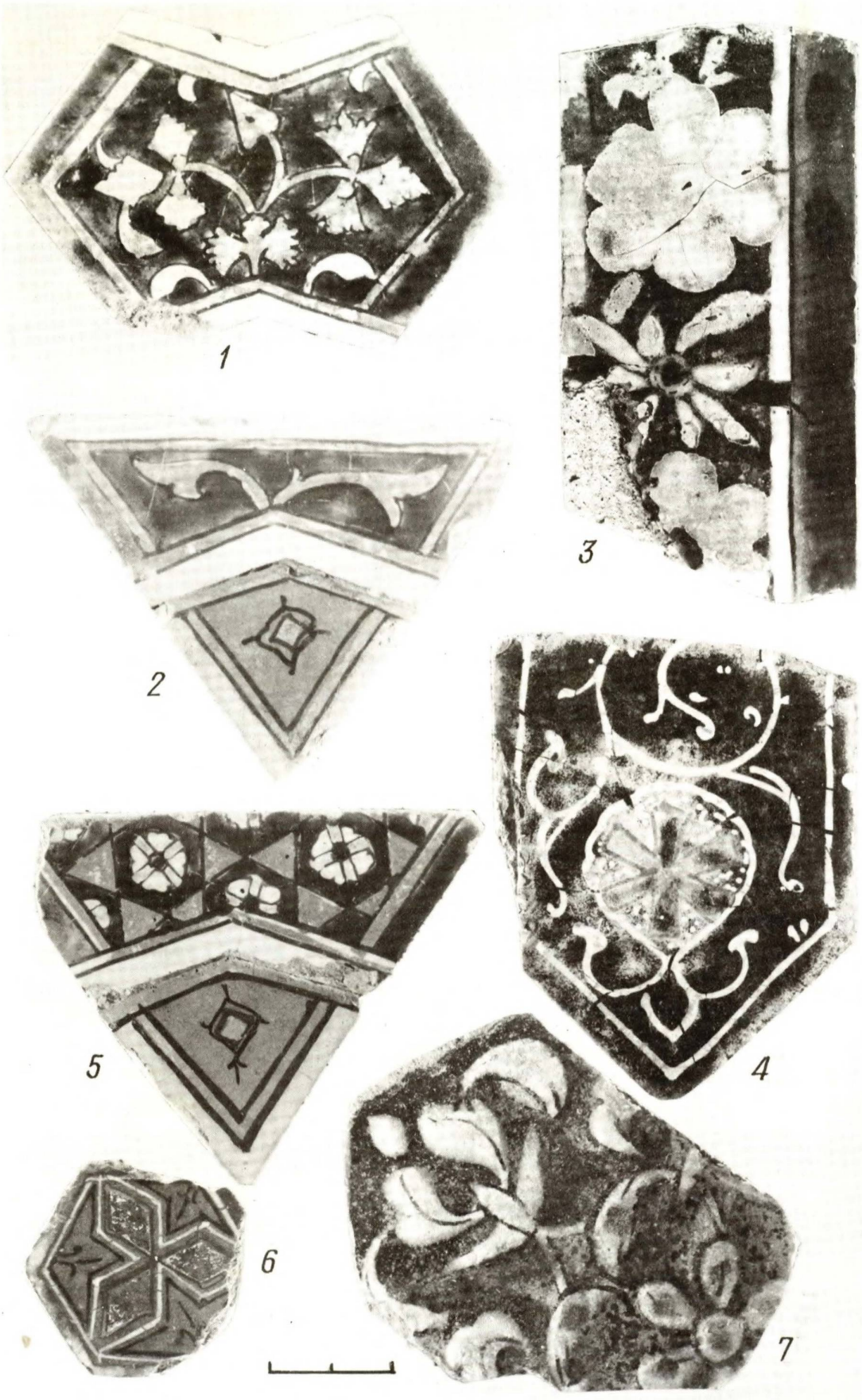

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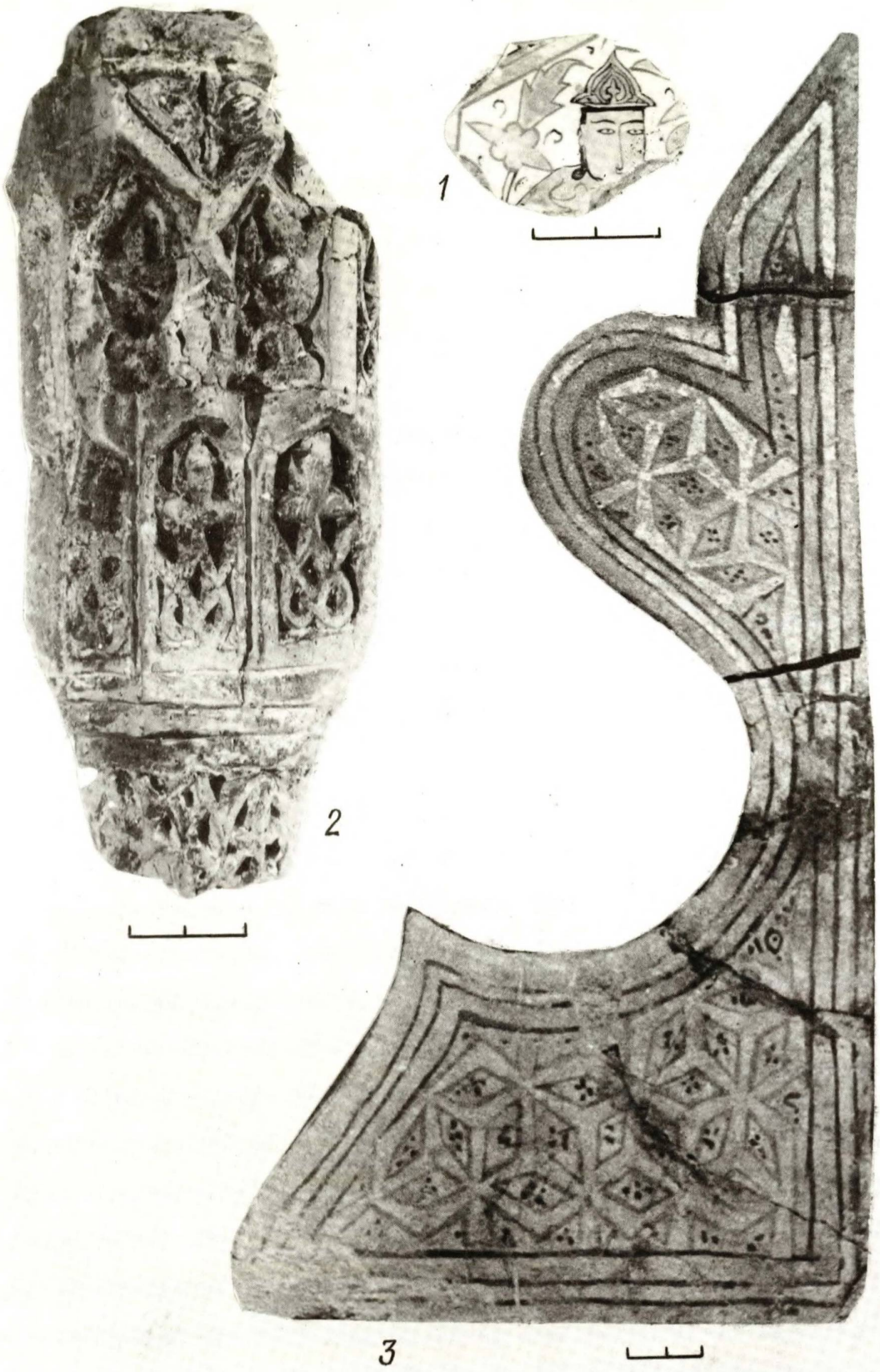

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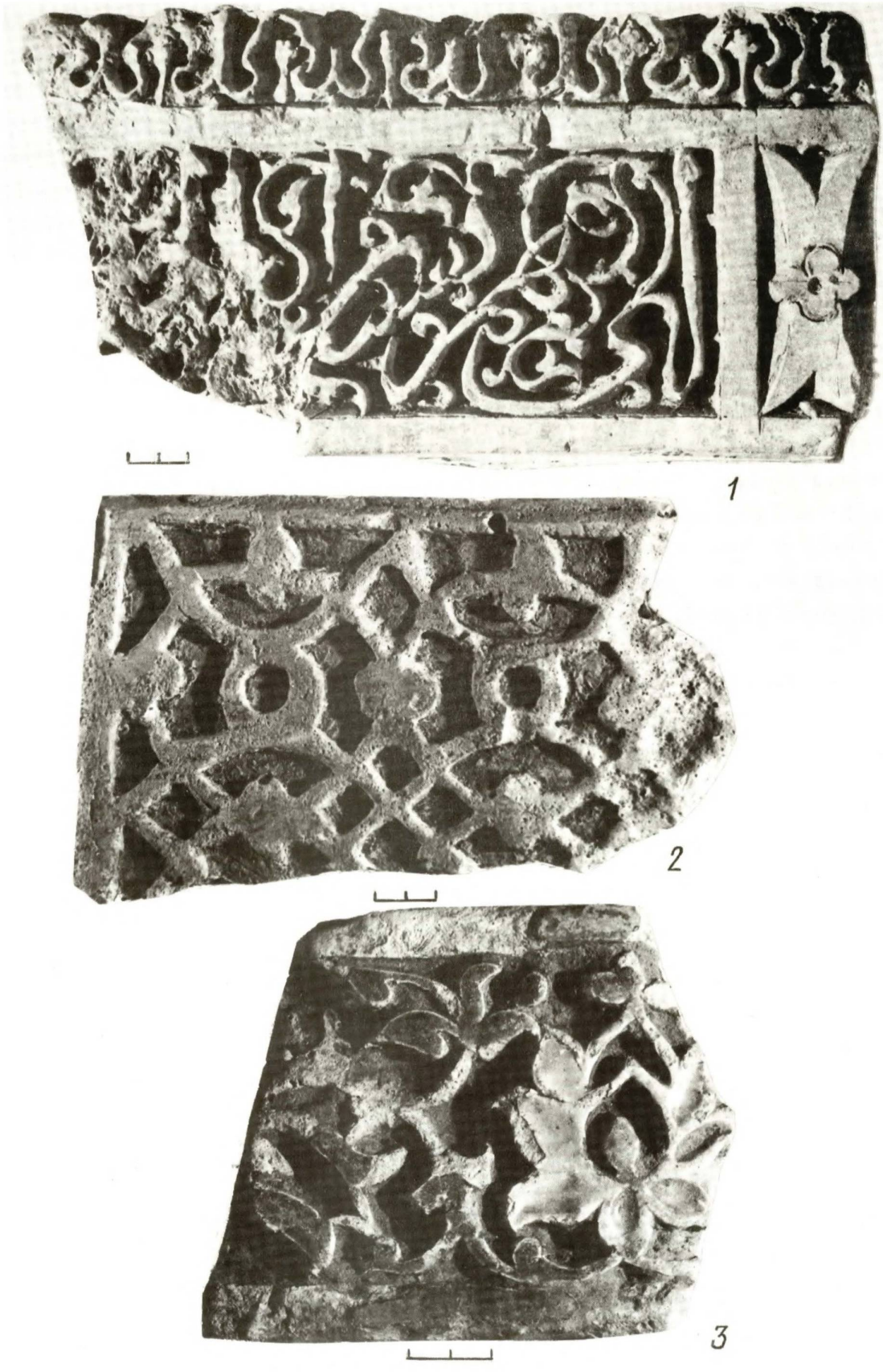

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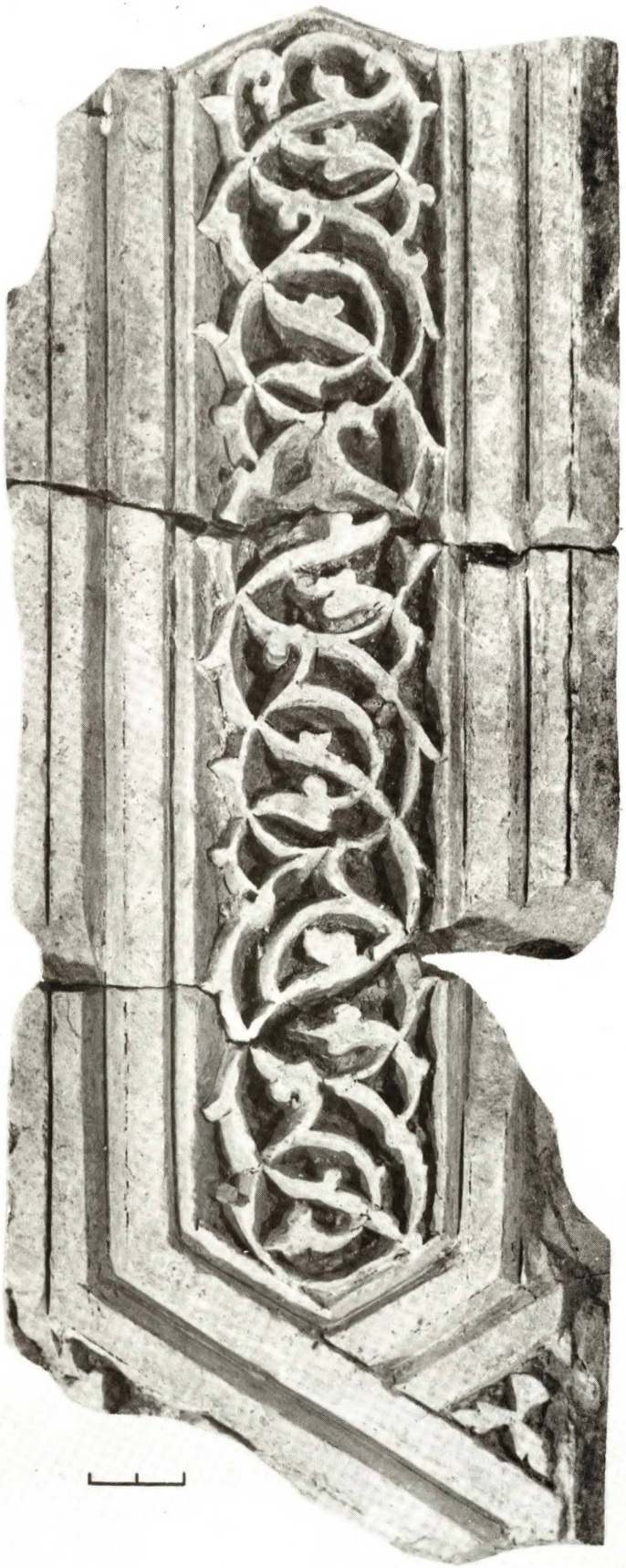

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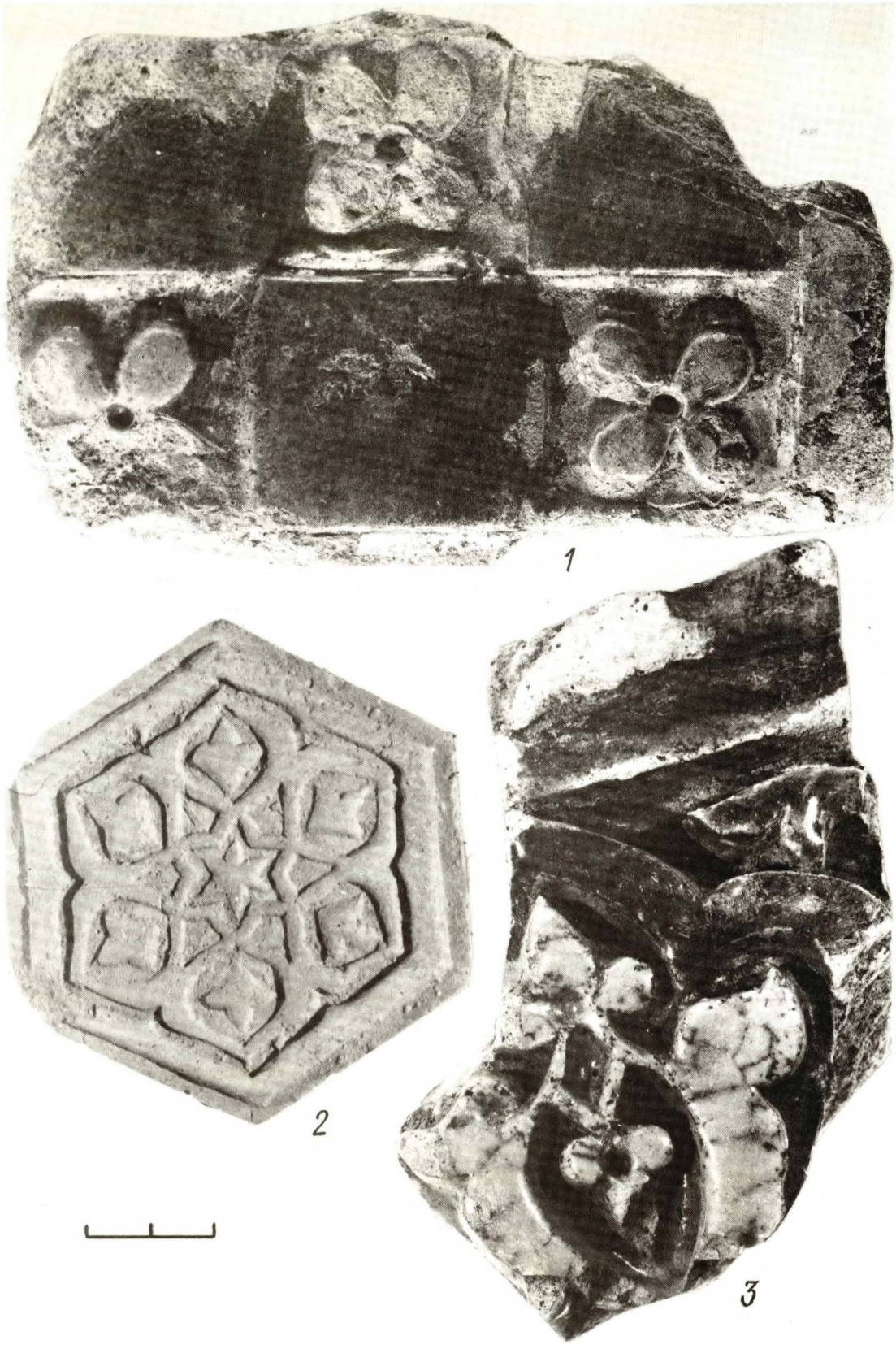

Illustration 77

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Illustration 80

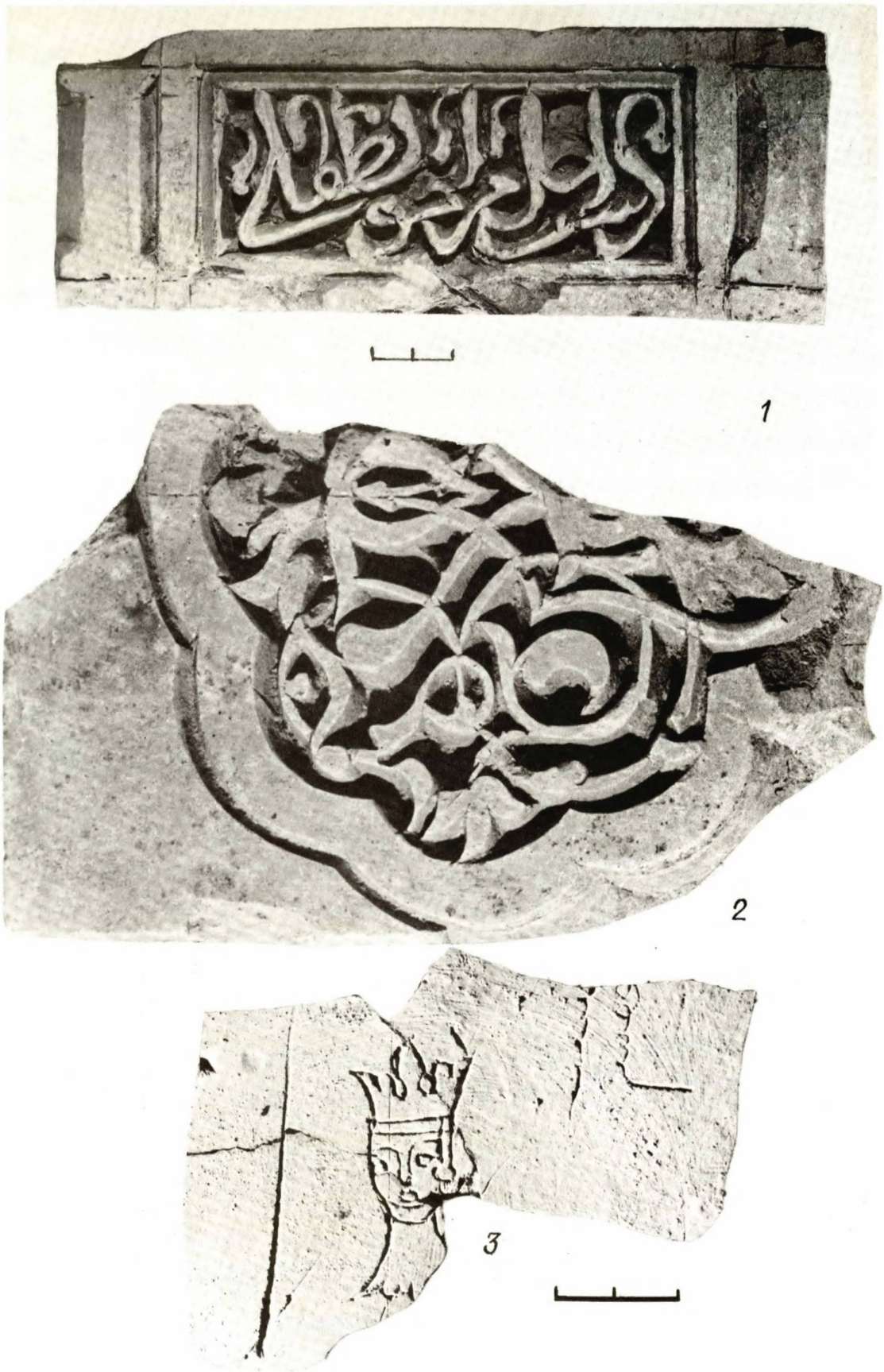


Illustration 81

Illustration 82

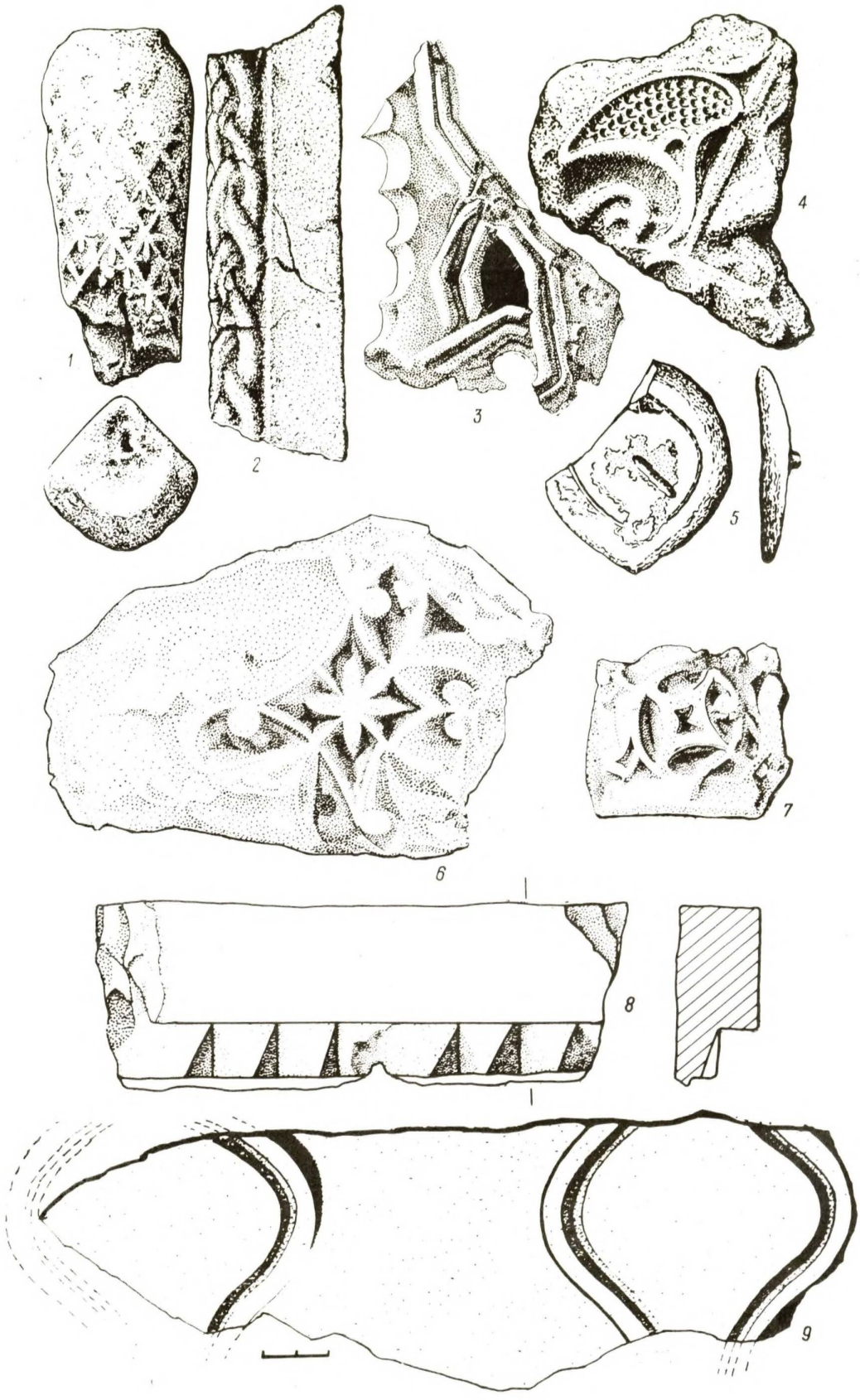
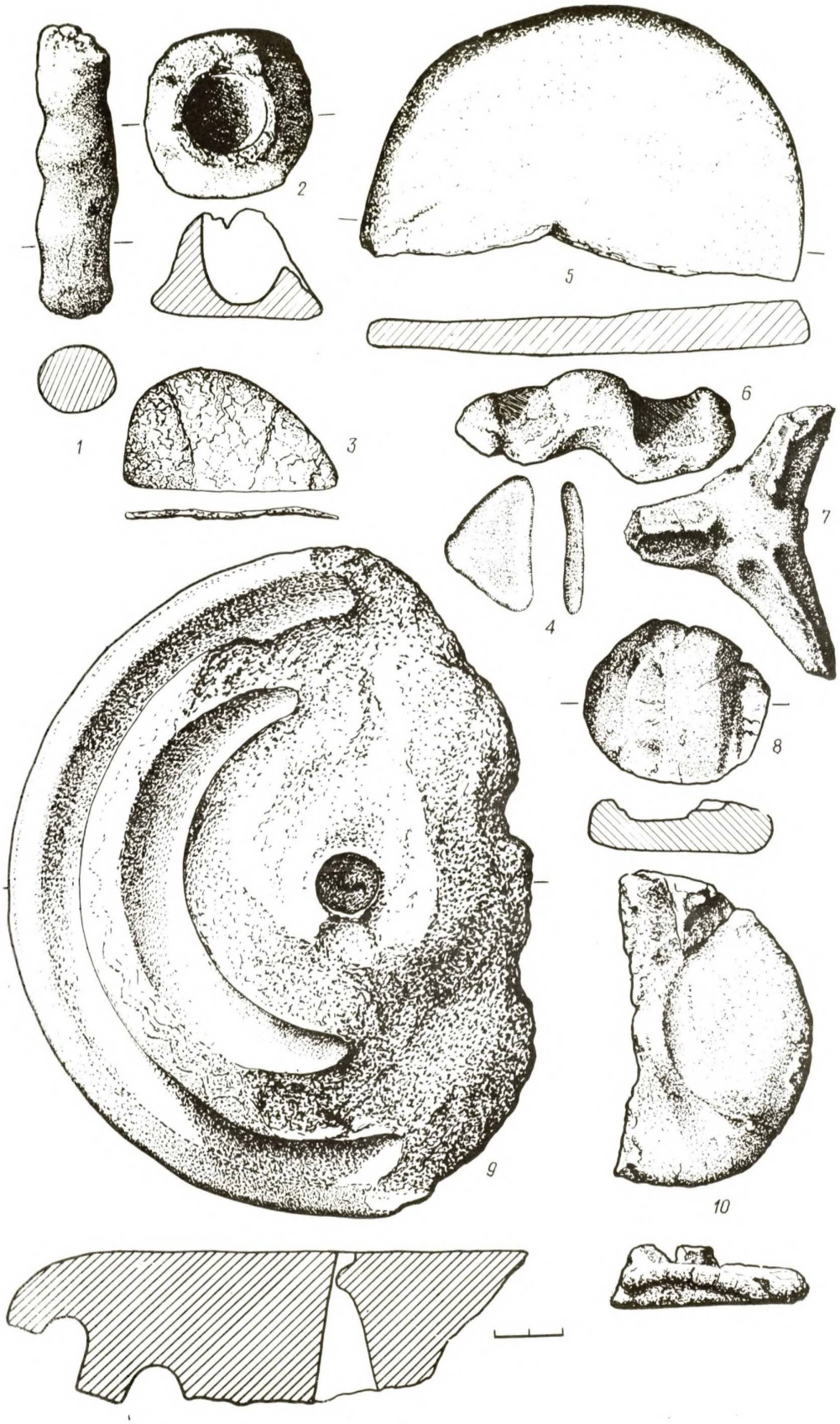


Illustration 83

Illustration 84



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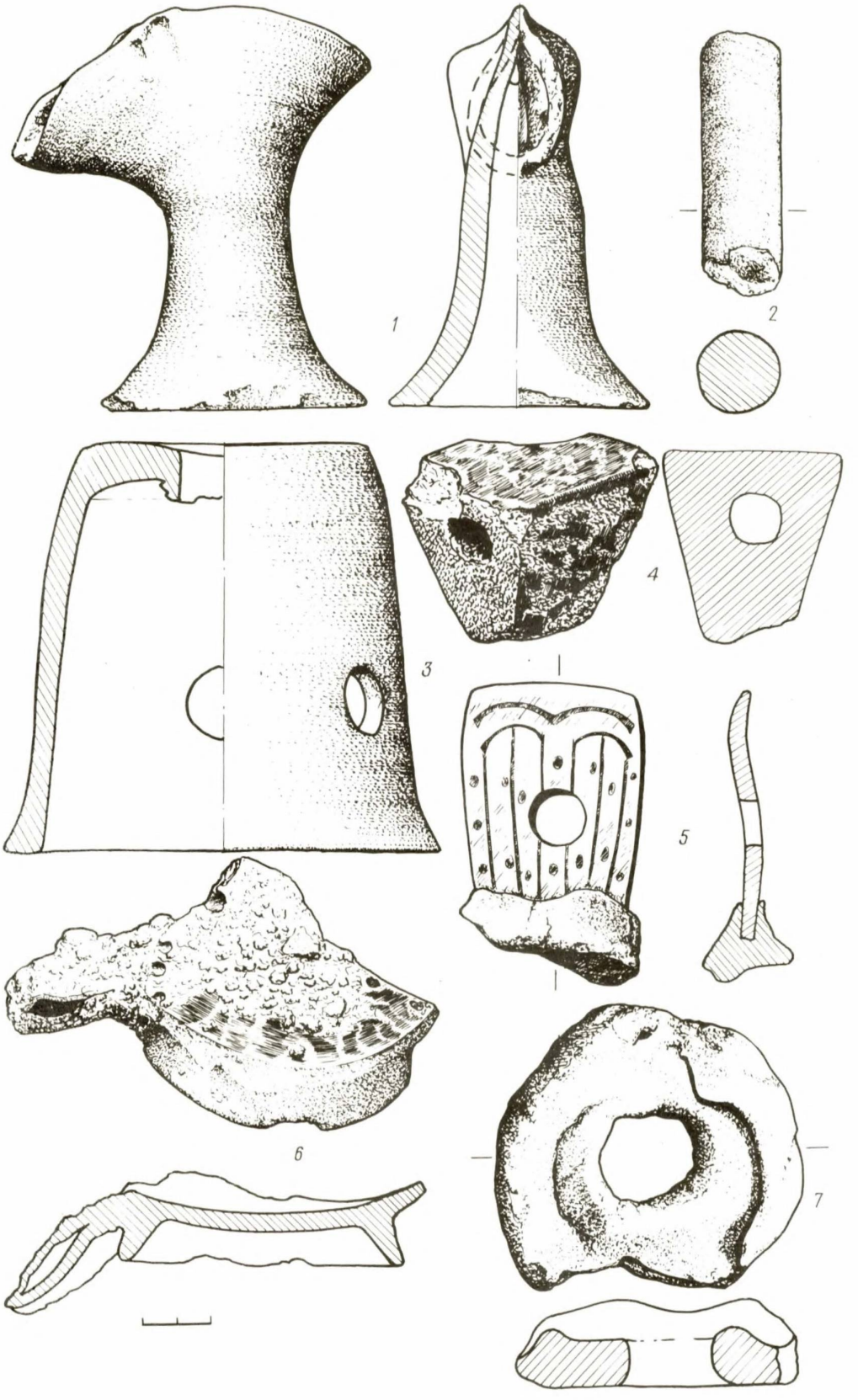

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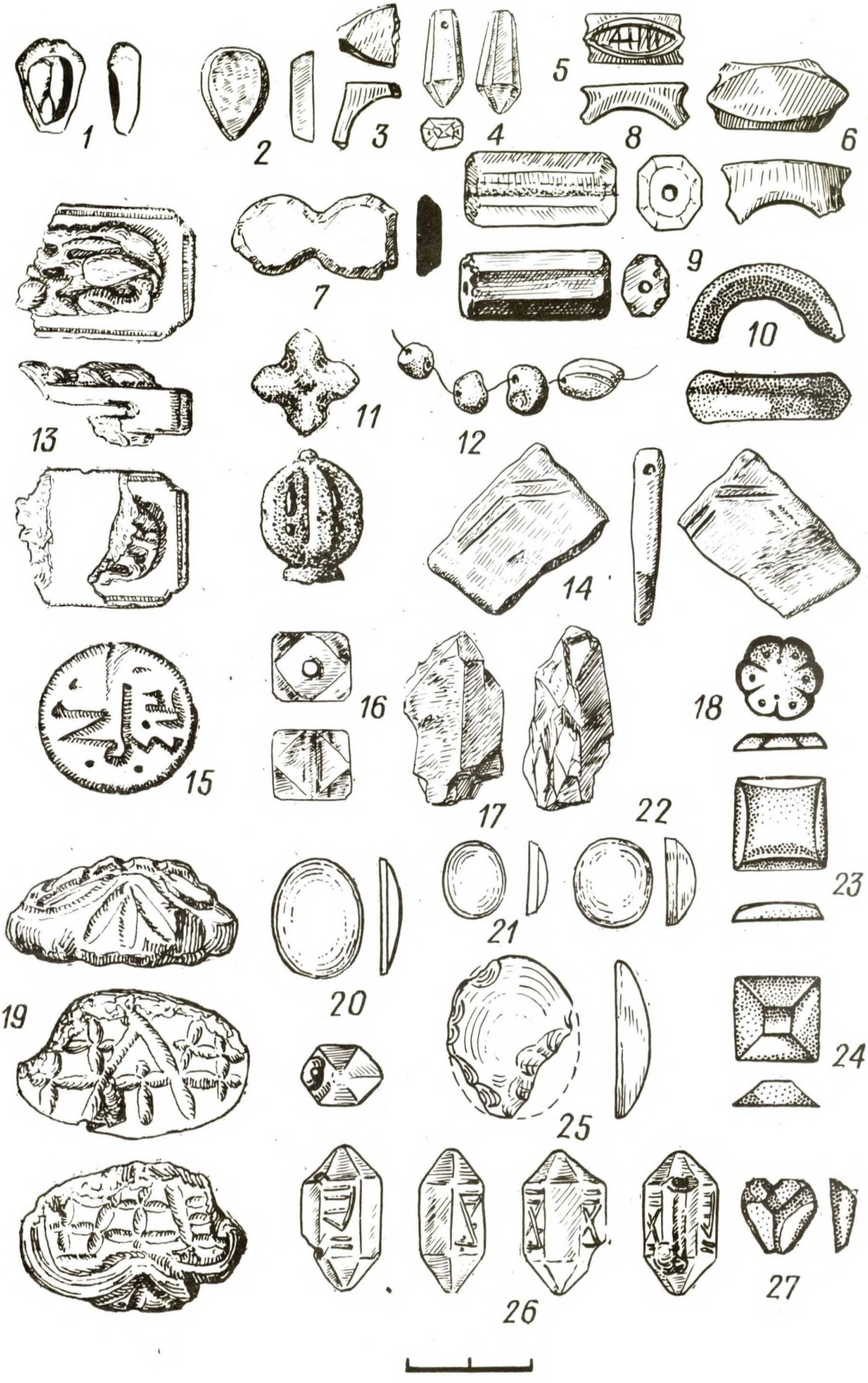

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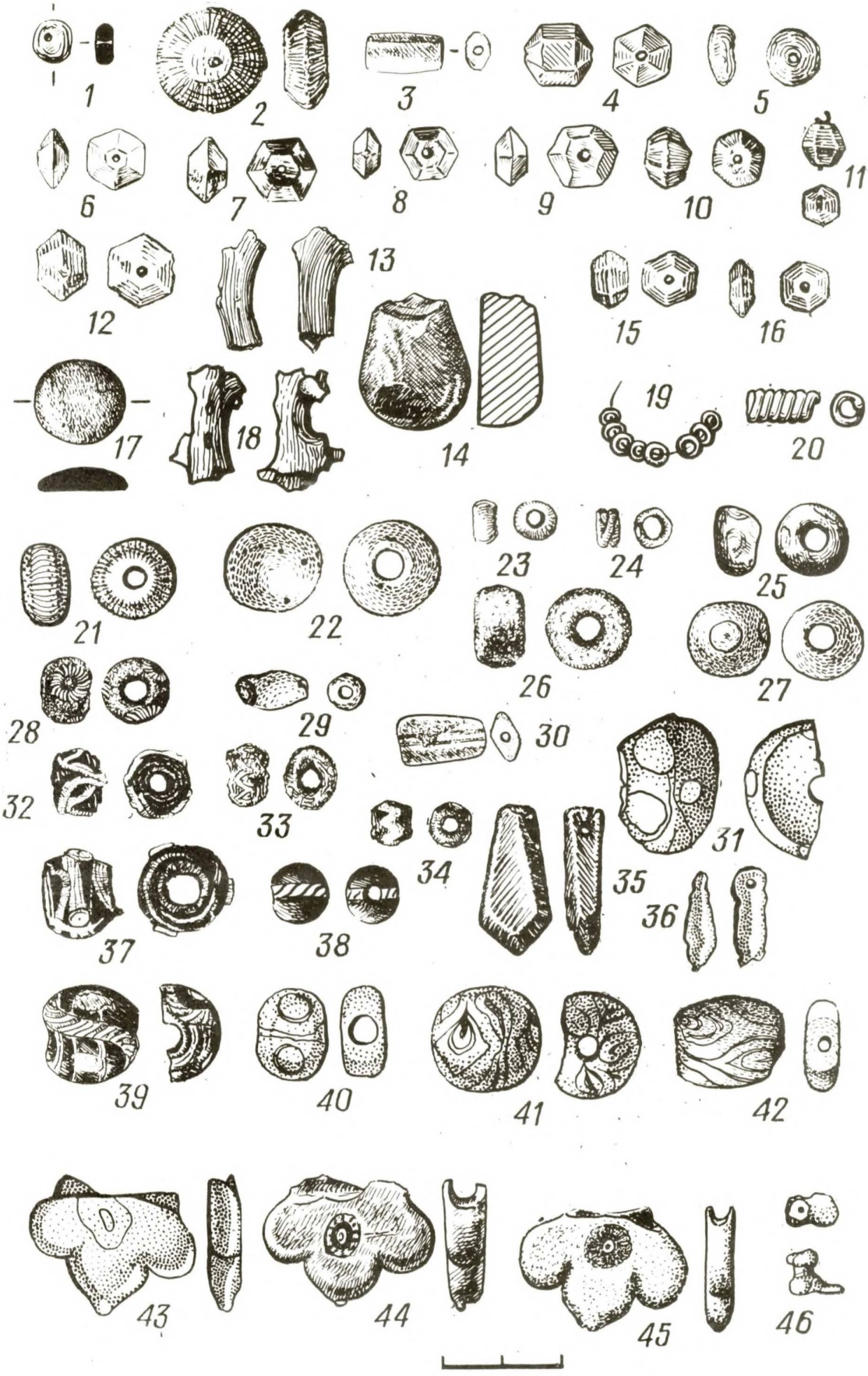

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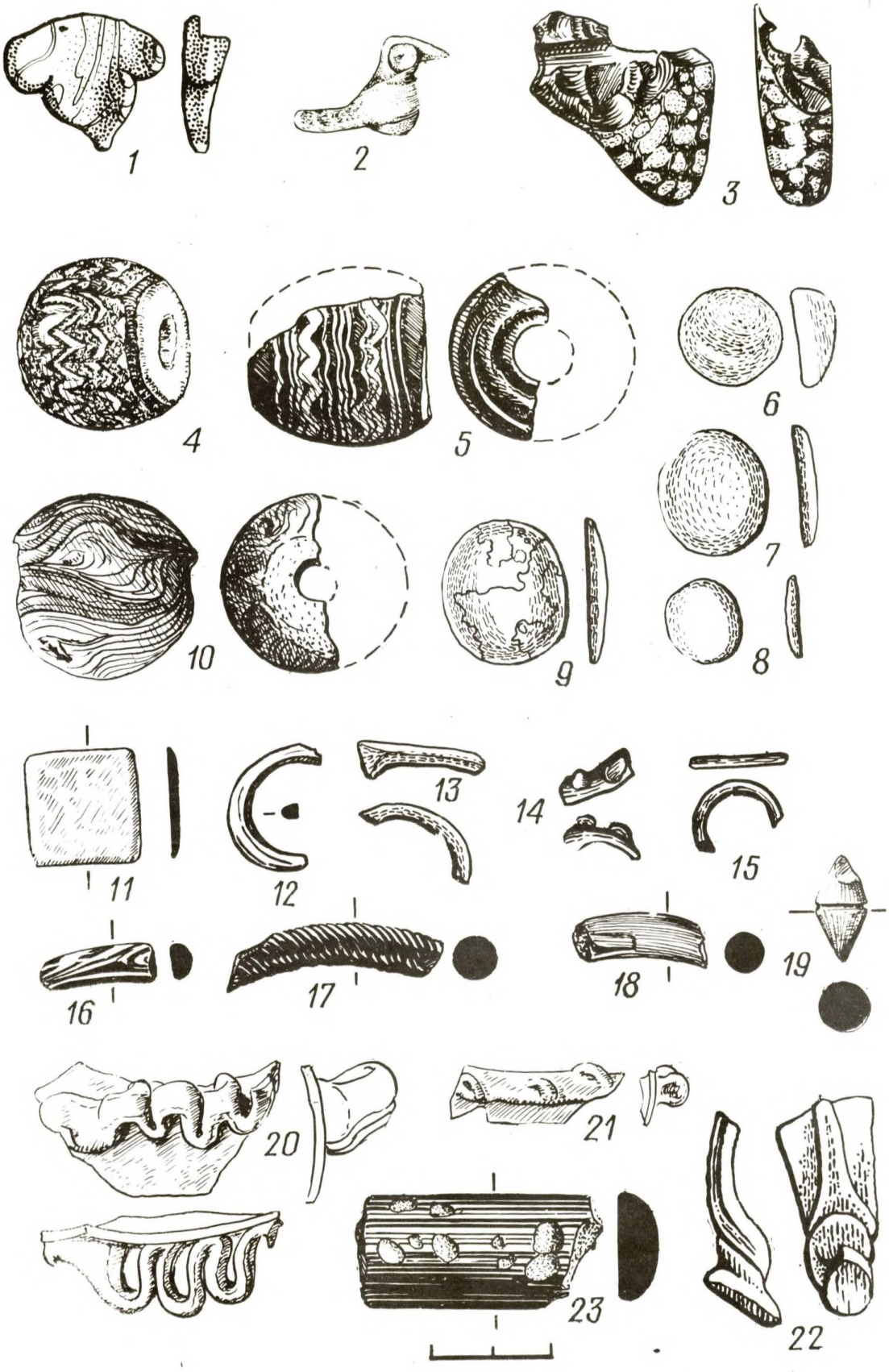
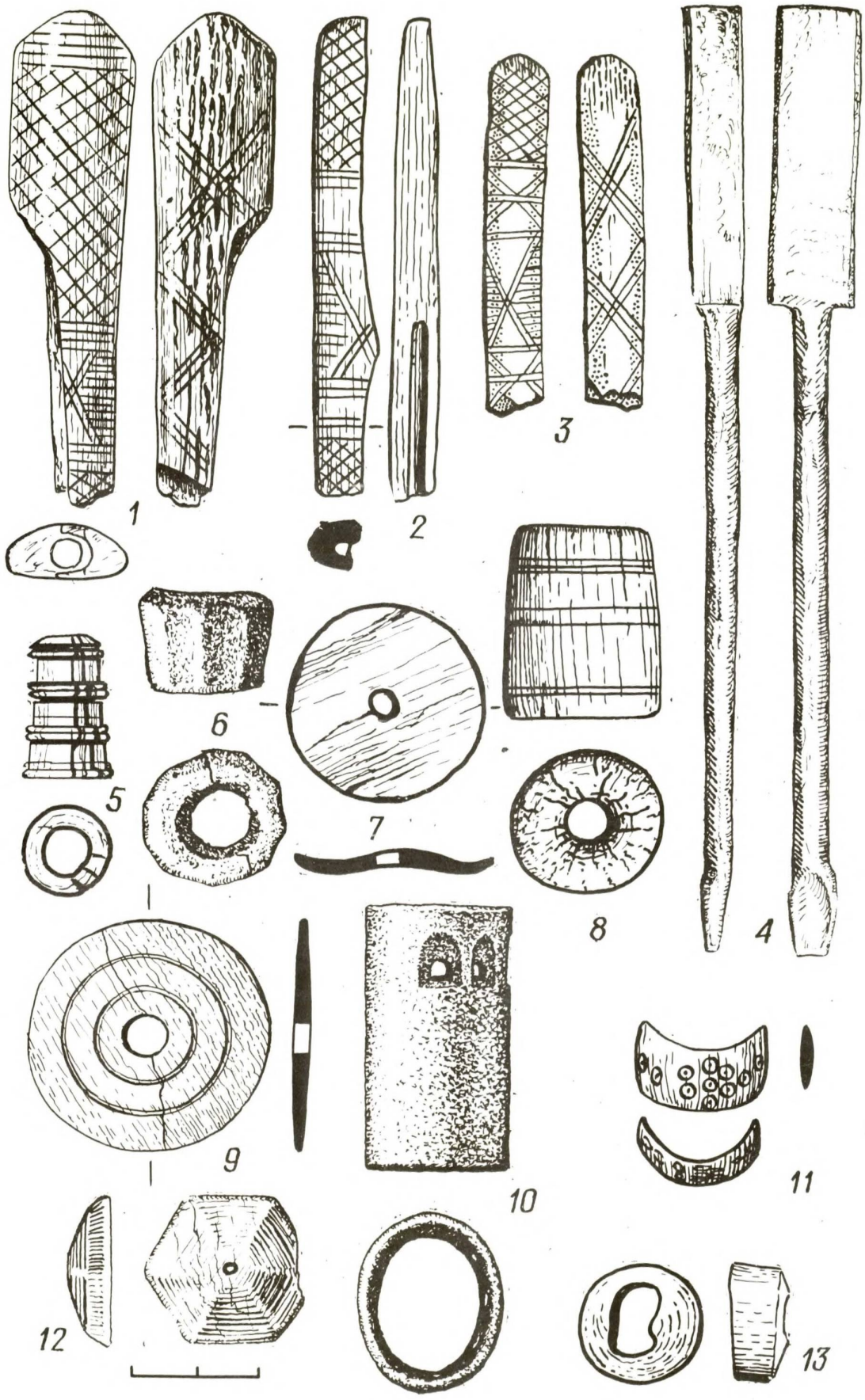


Illustration 89

Illustration 90



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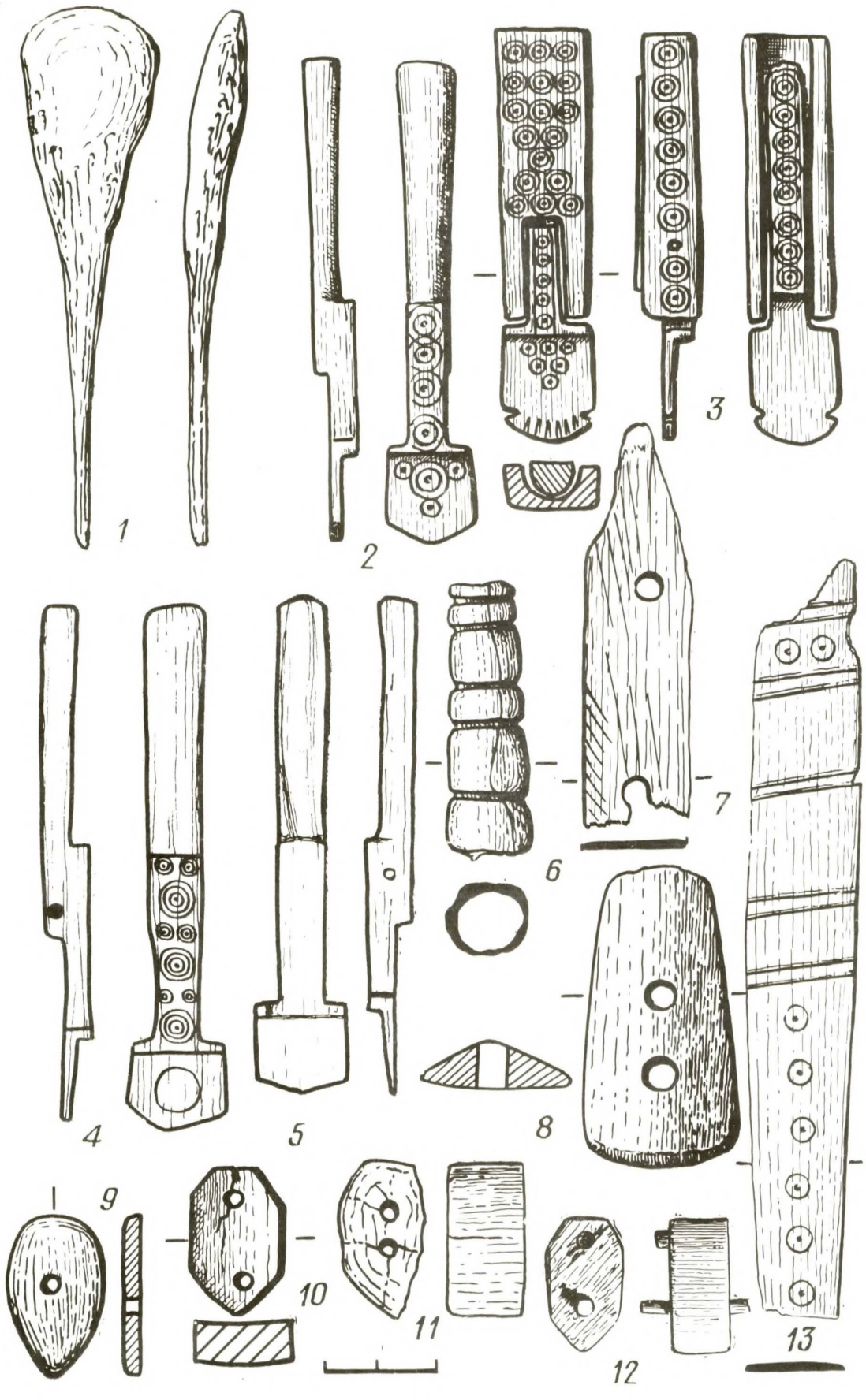
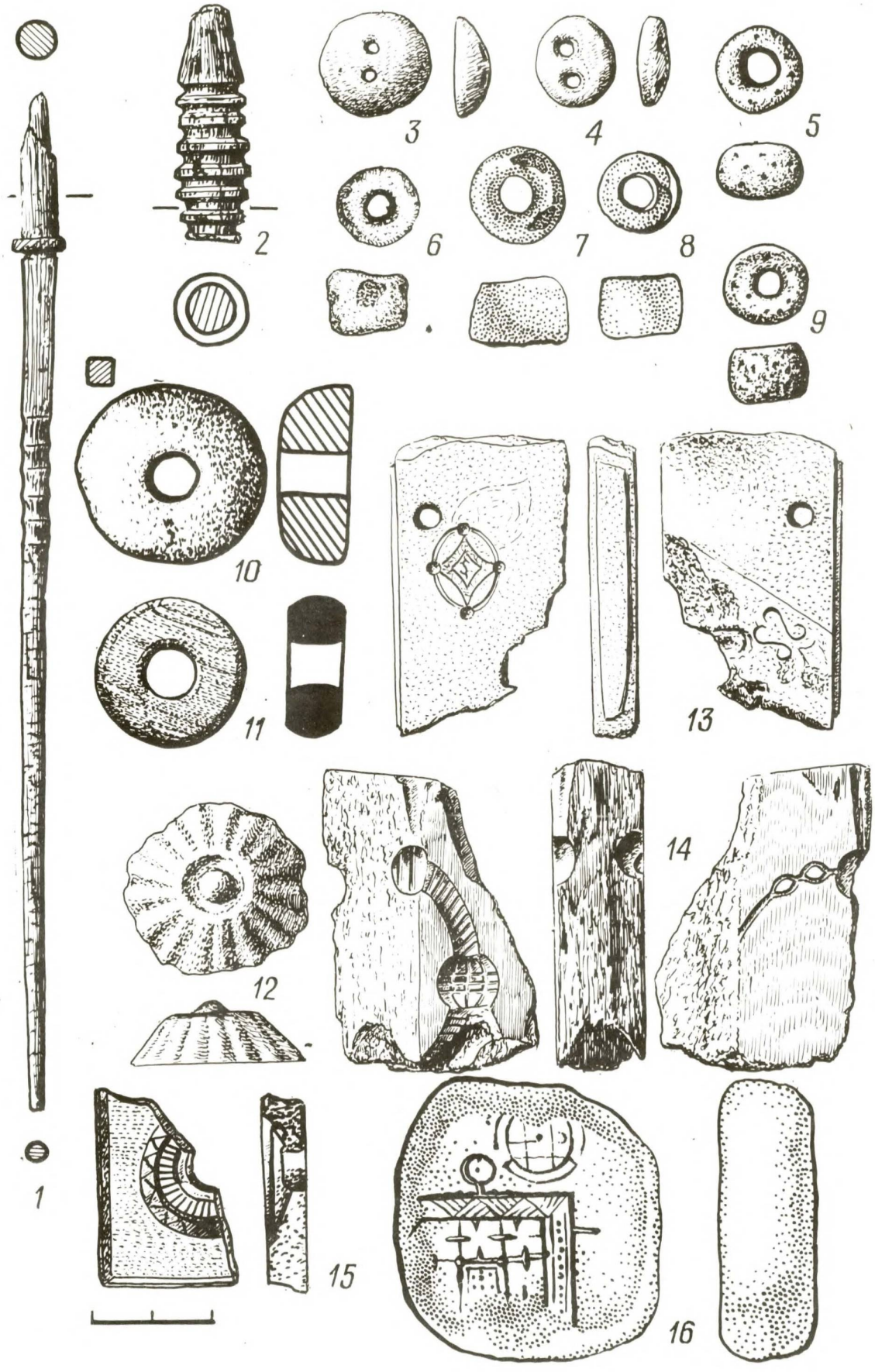


Illustration 92

Illustration 93



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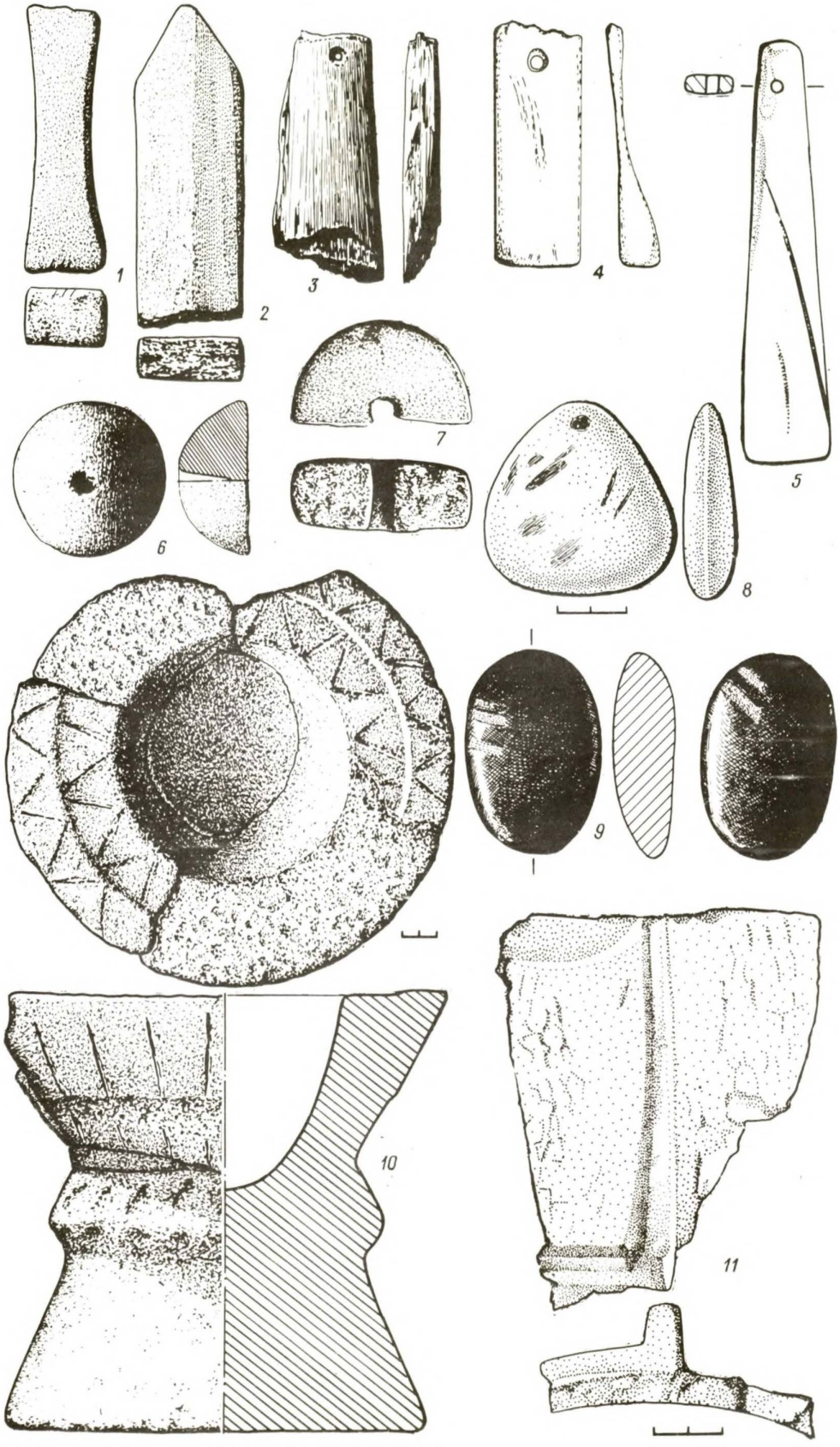

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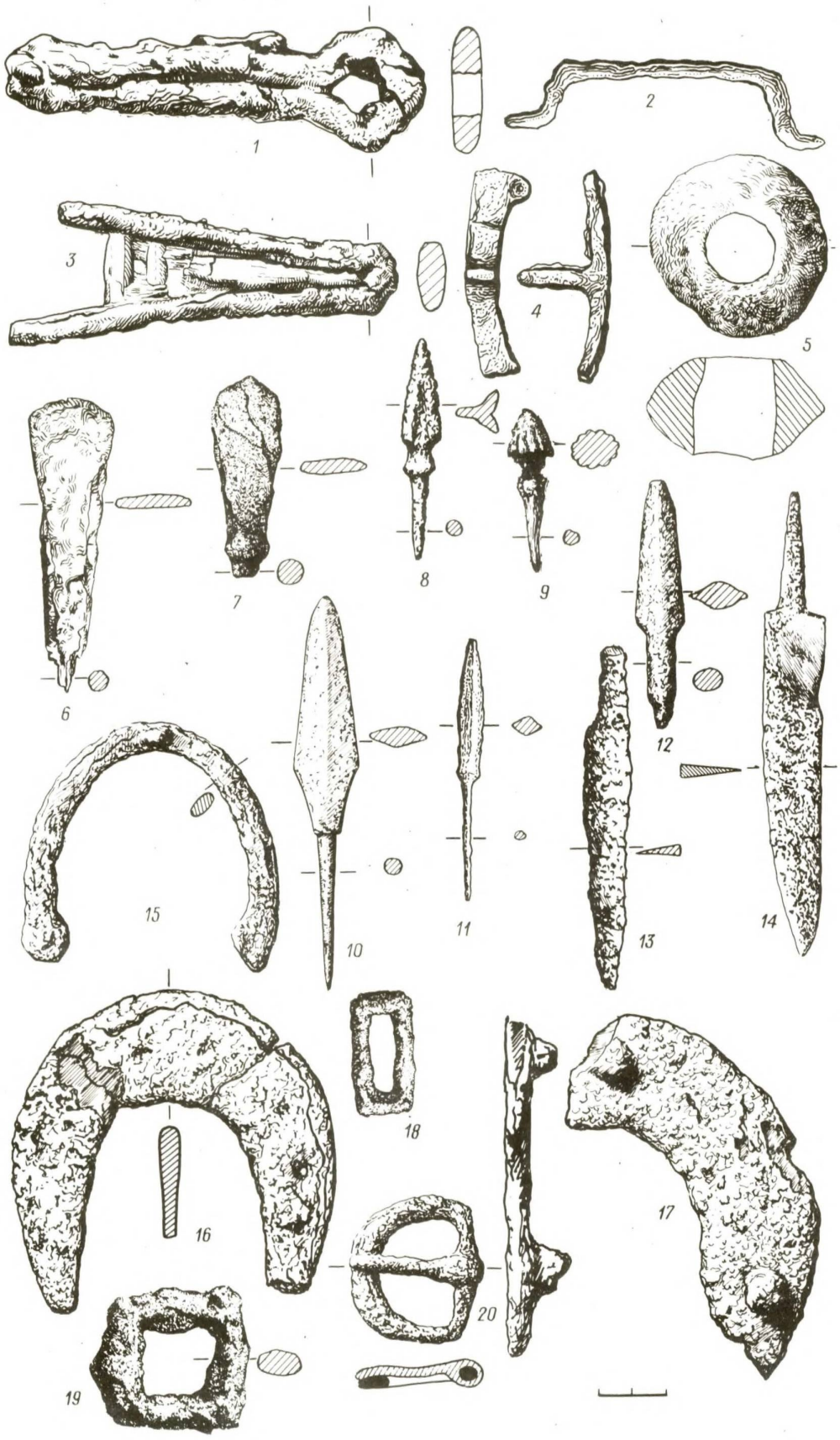

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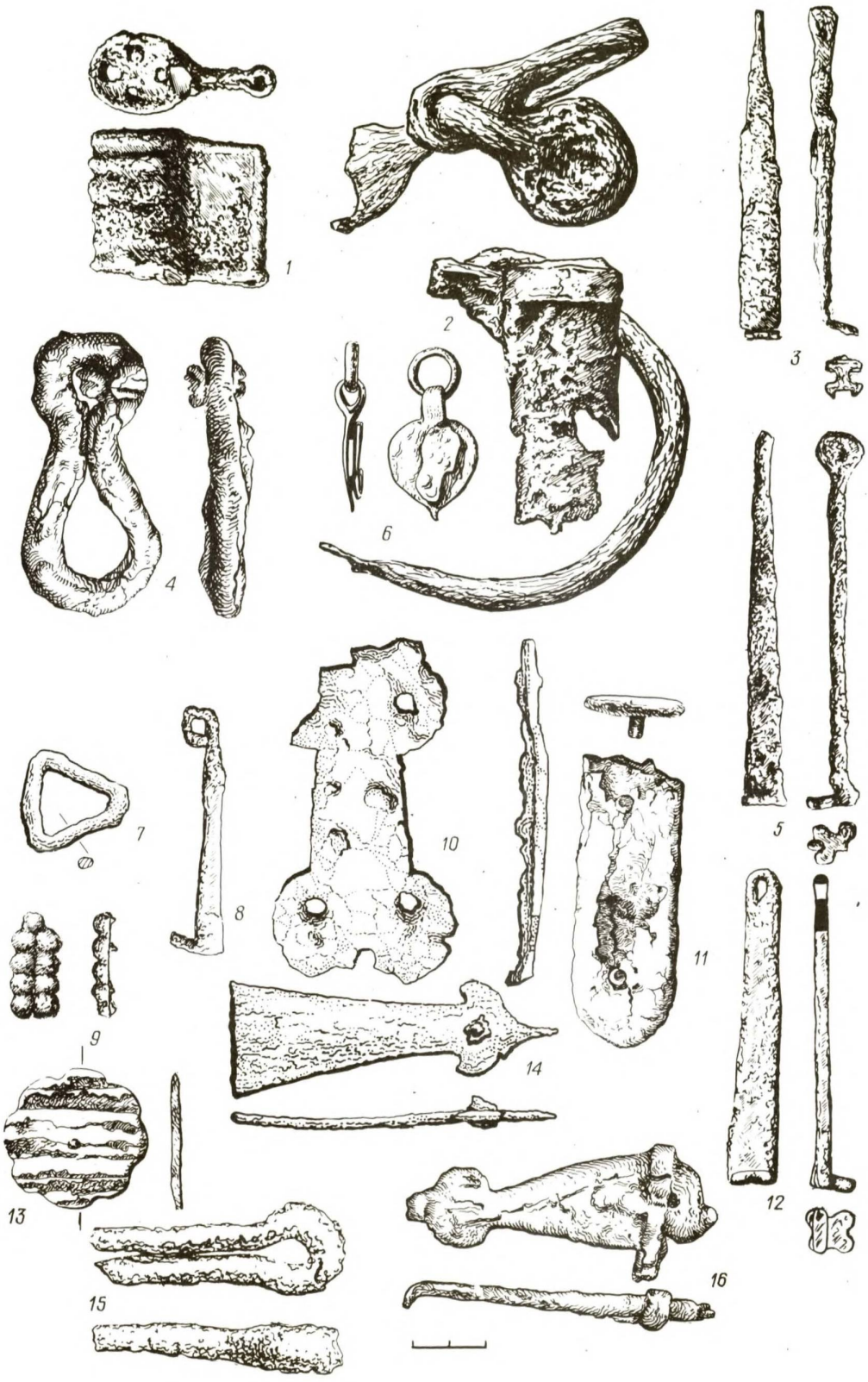

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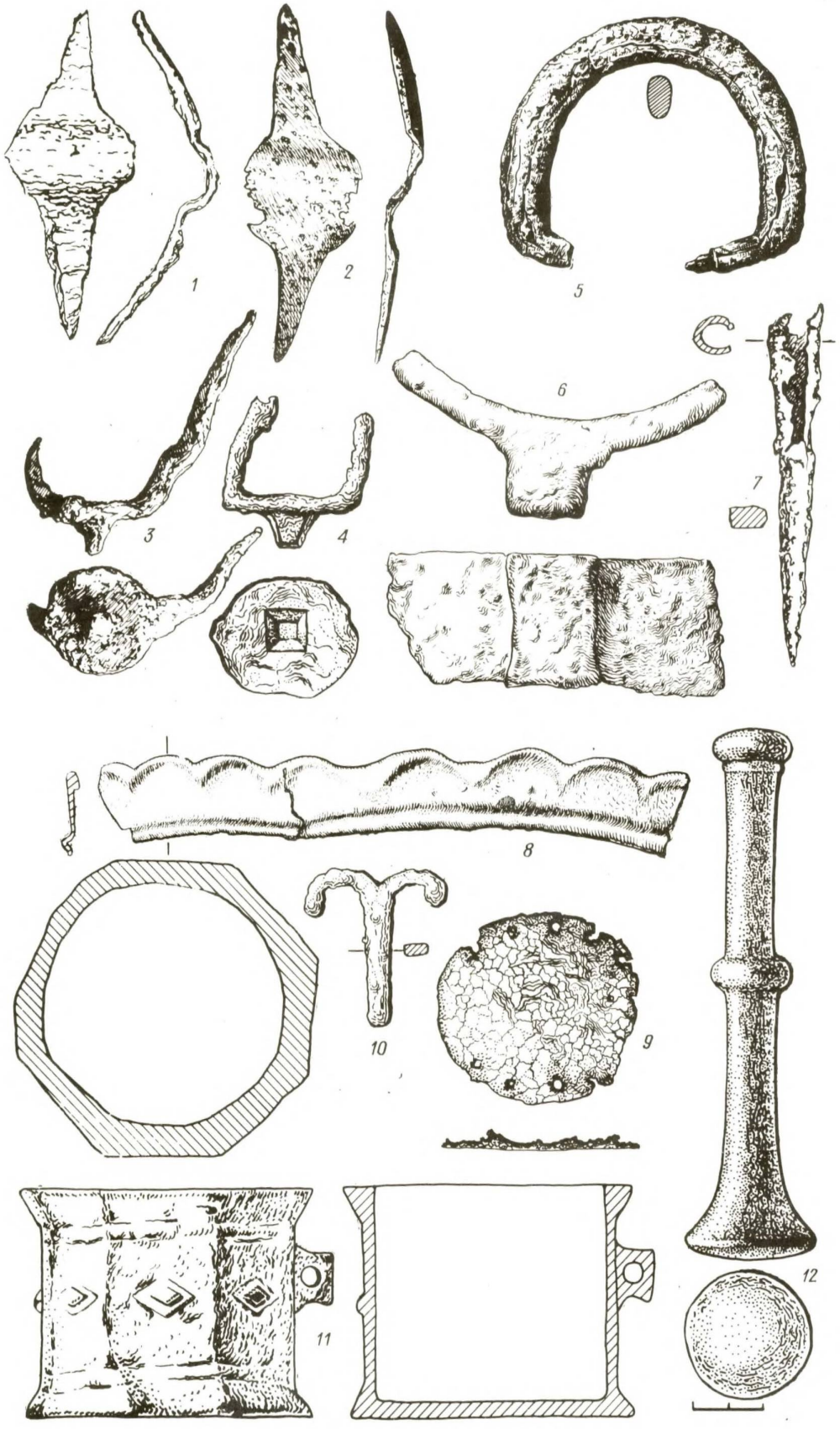

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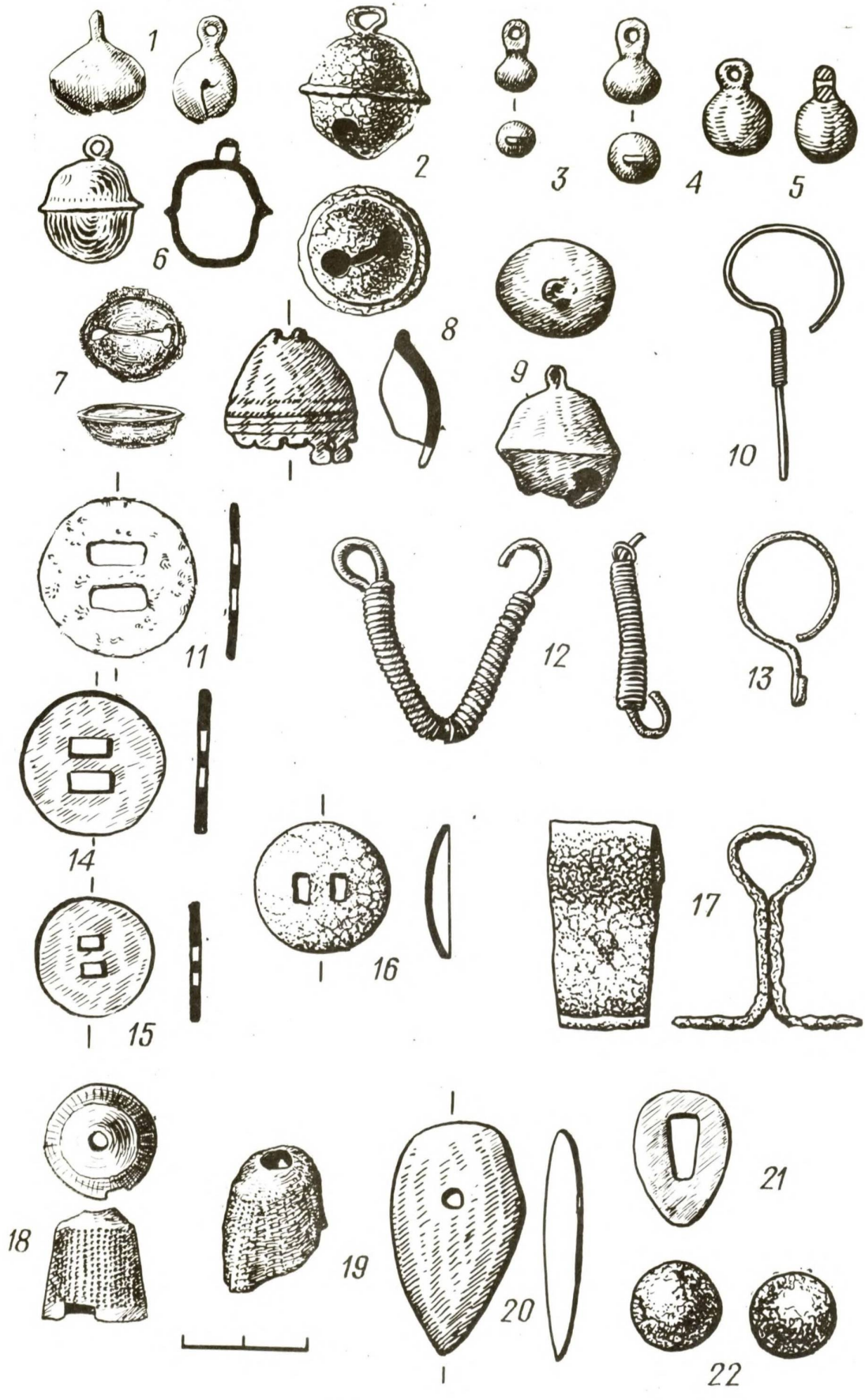

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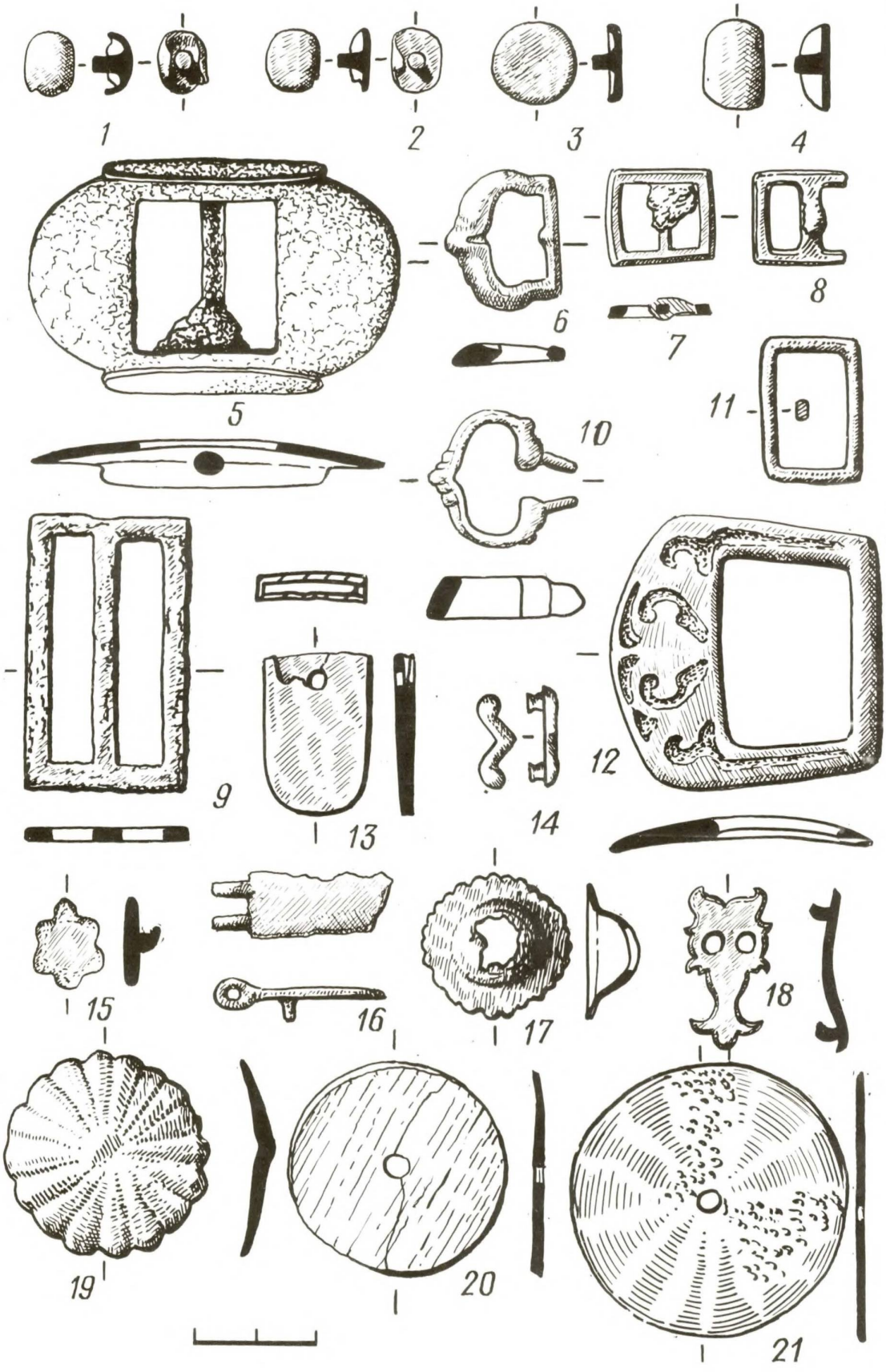

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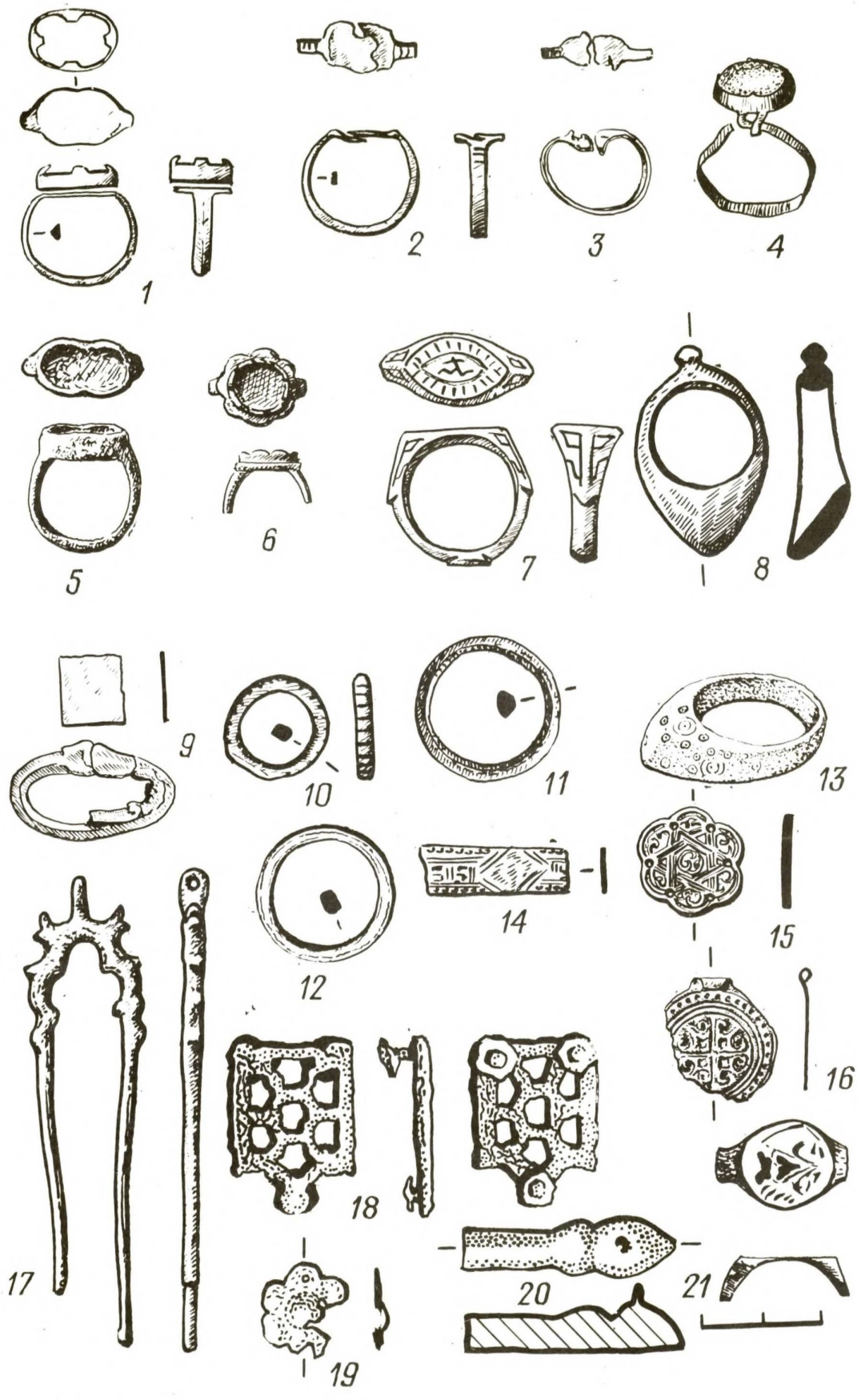

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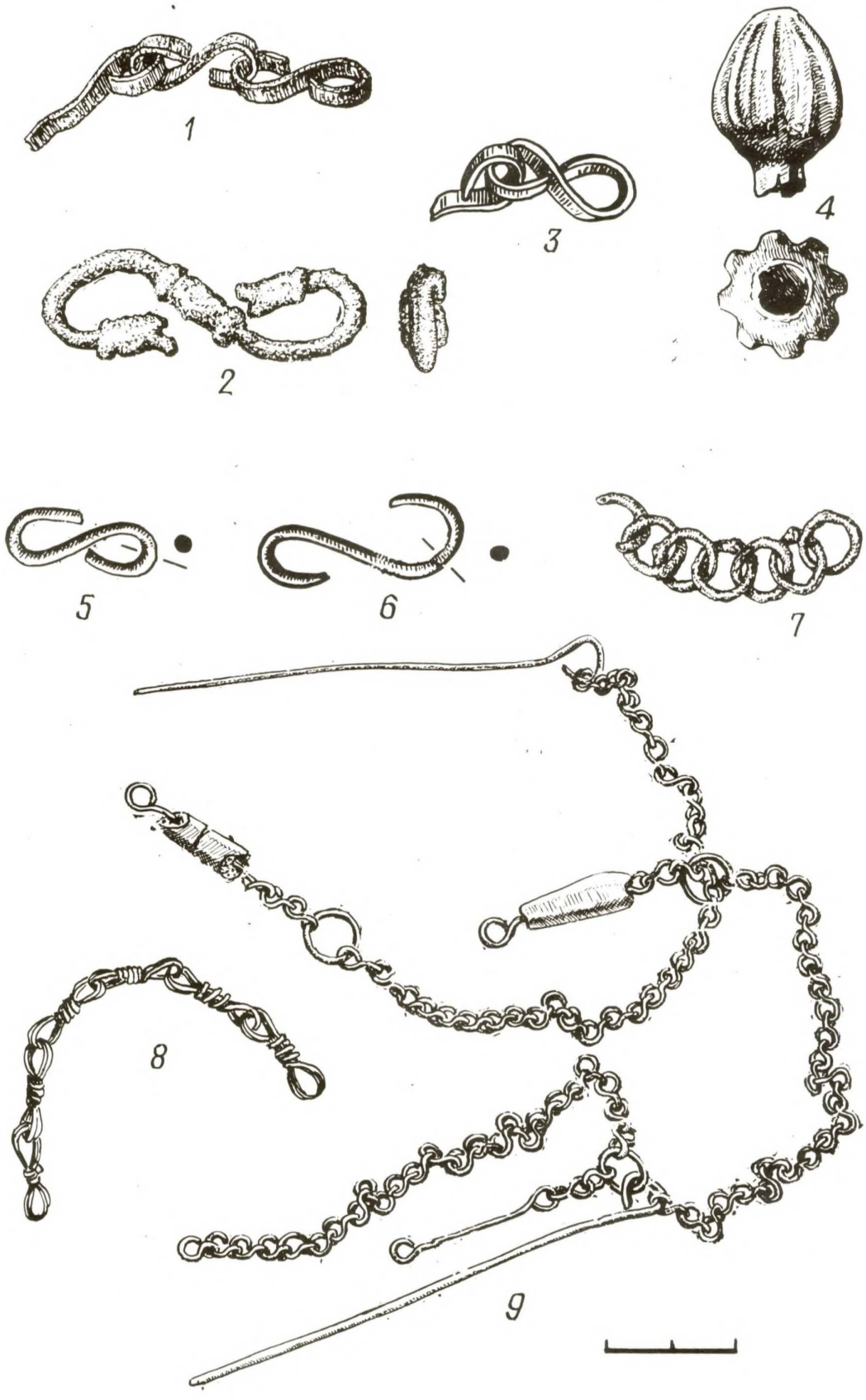
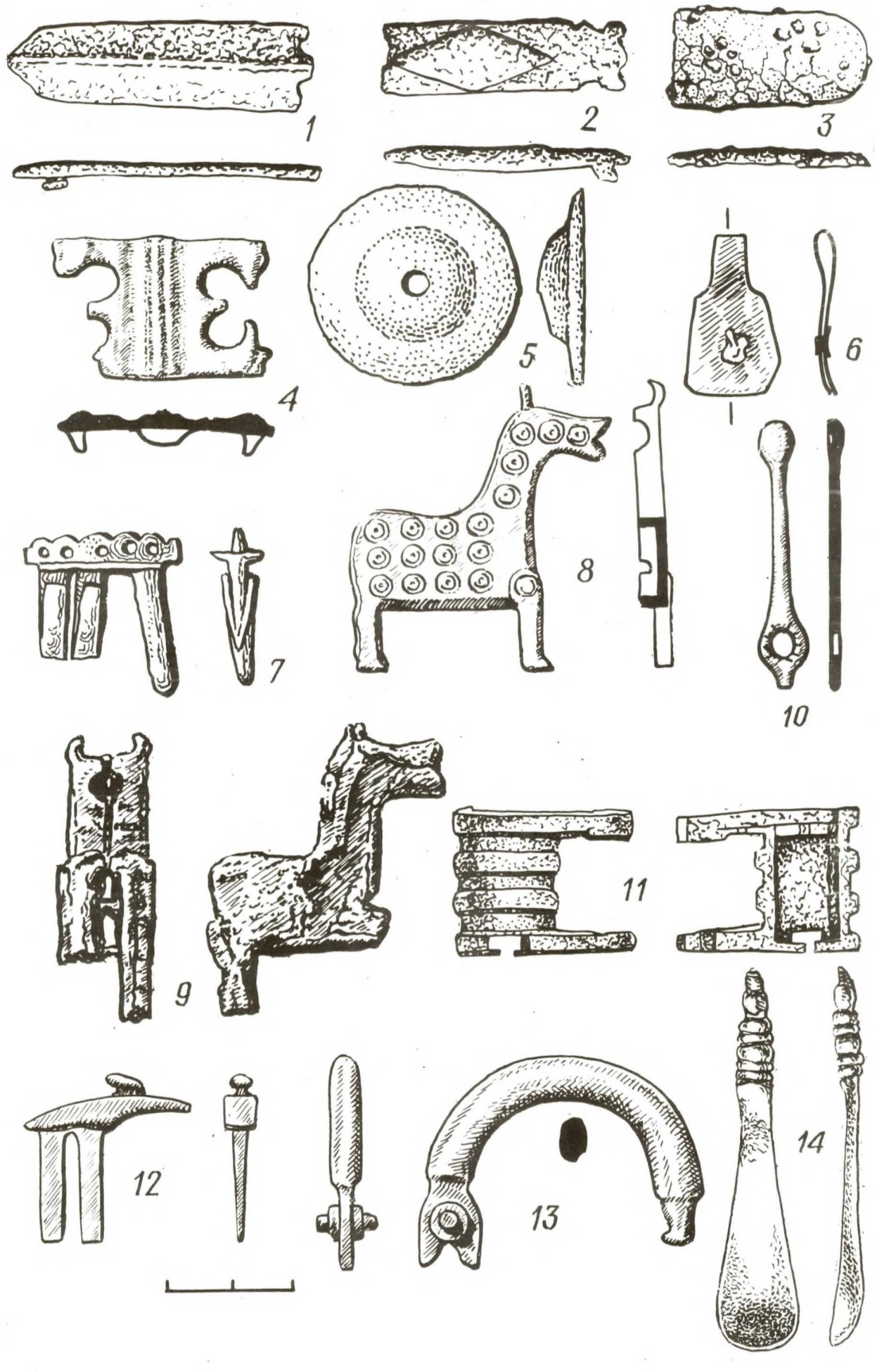


Illustration 102

Illustration 103



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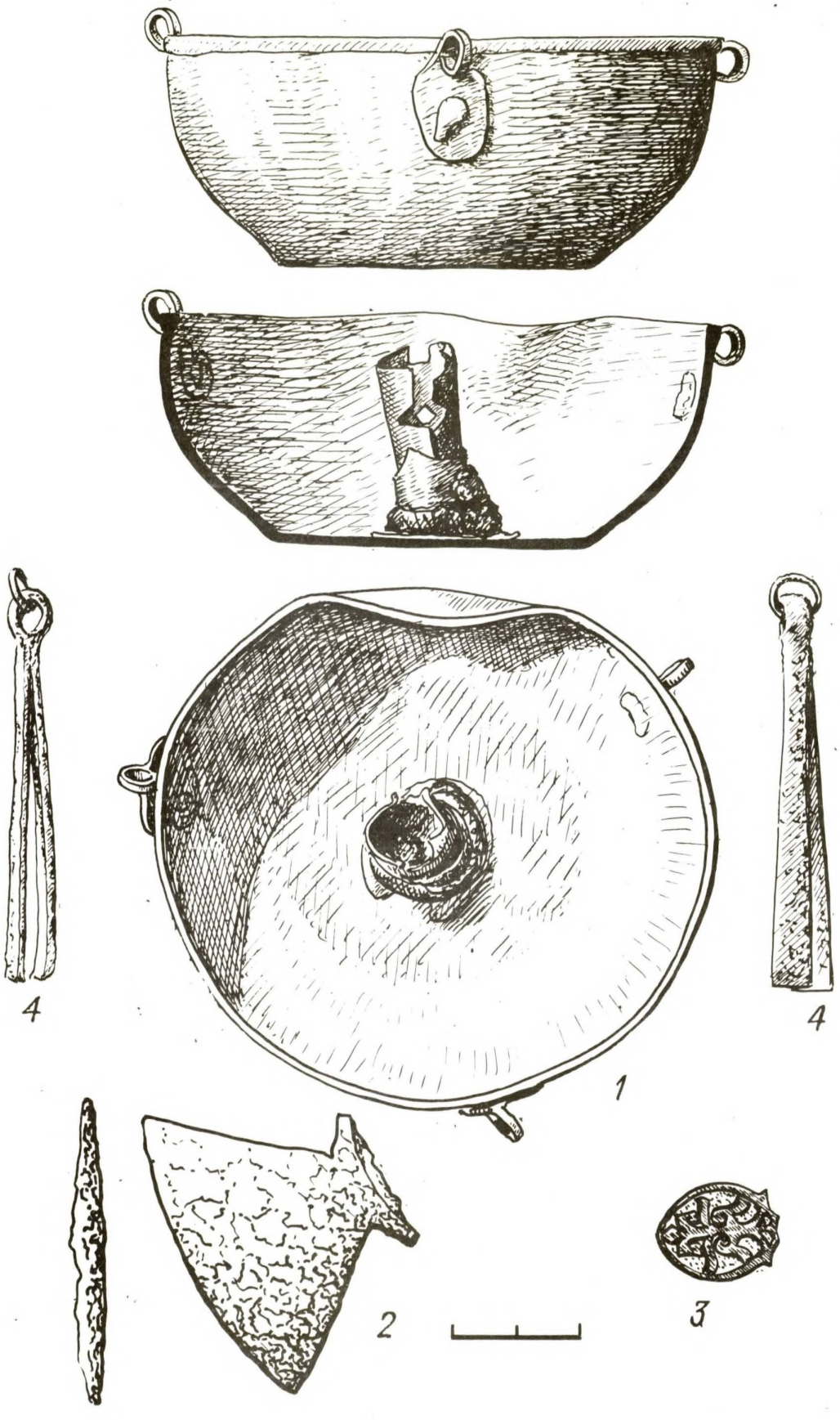

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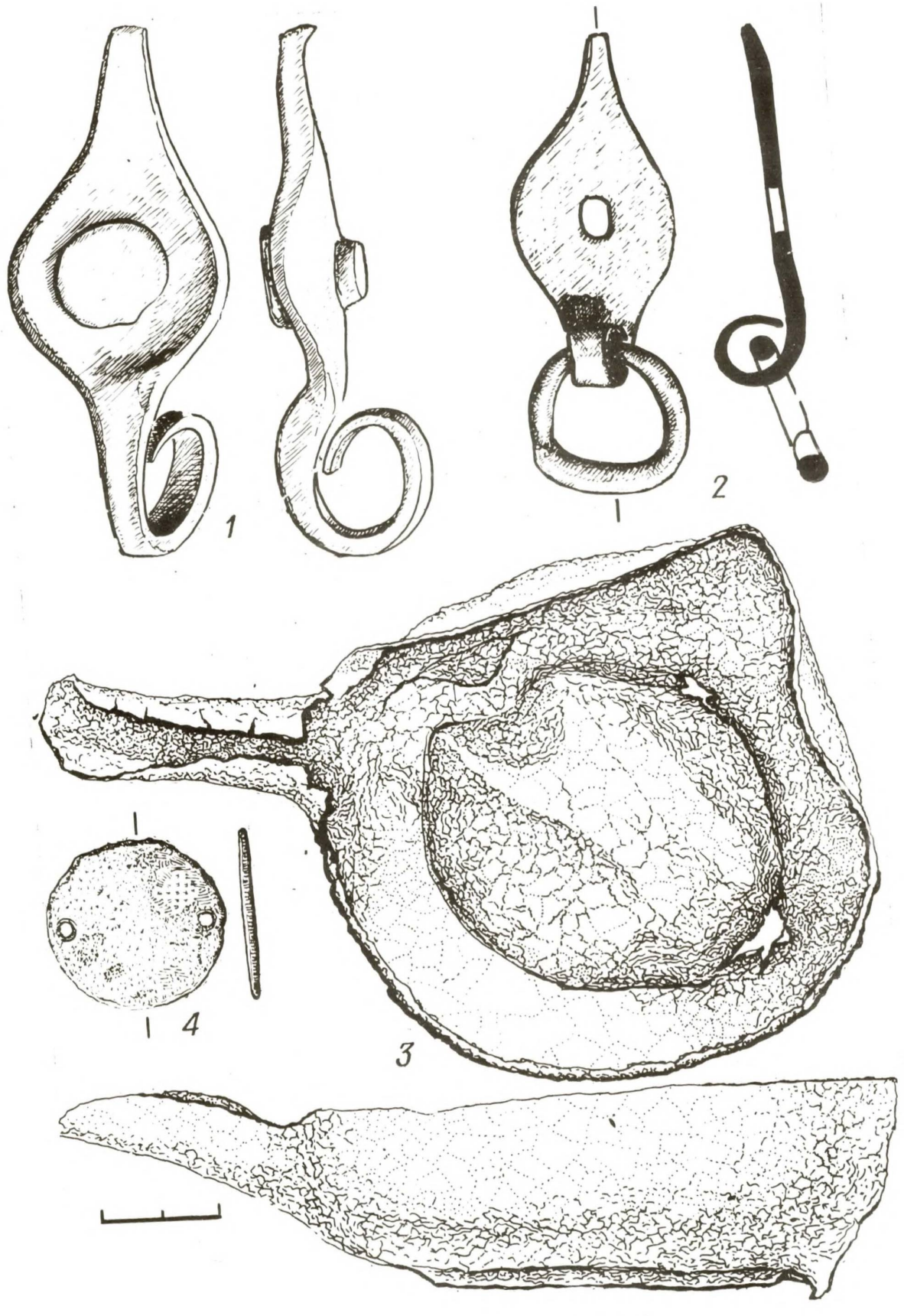

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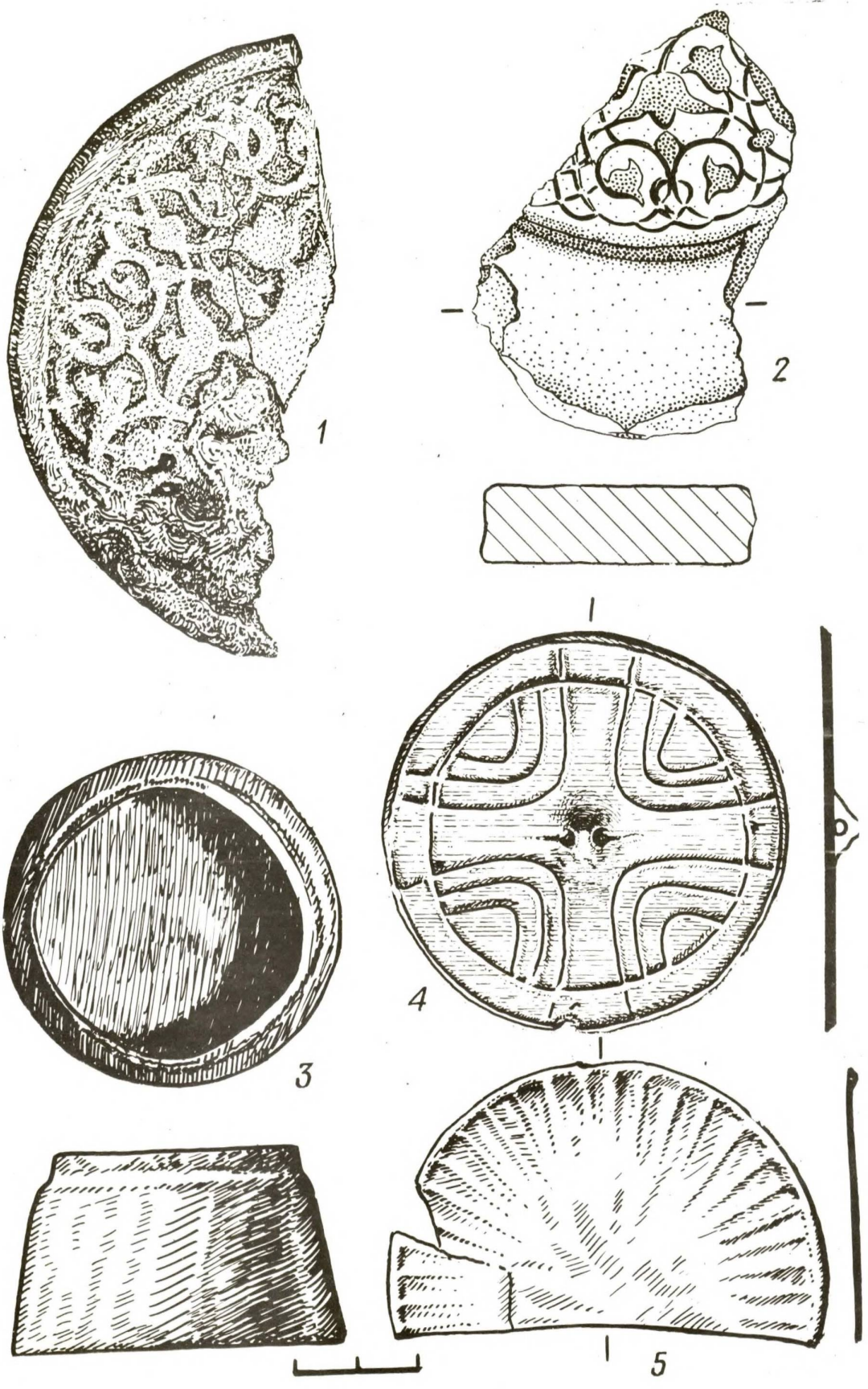
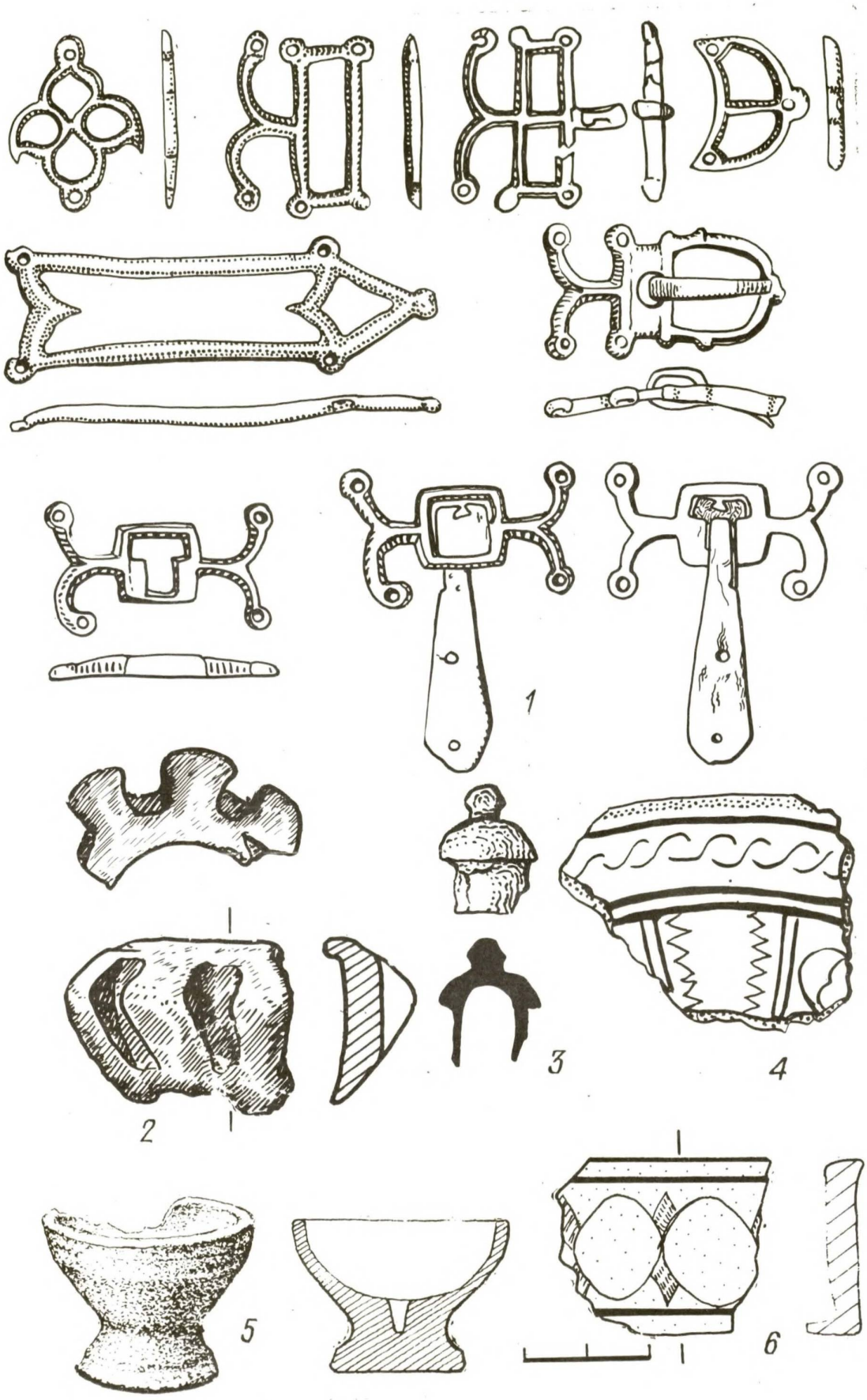


Illustration 107

Illustration 108



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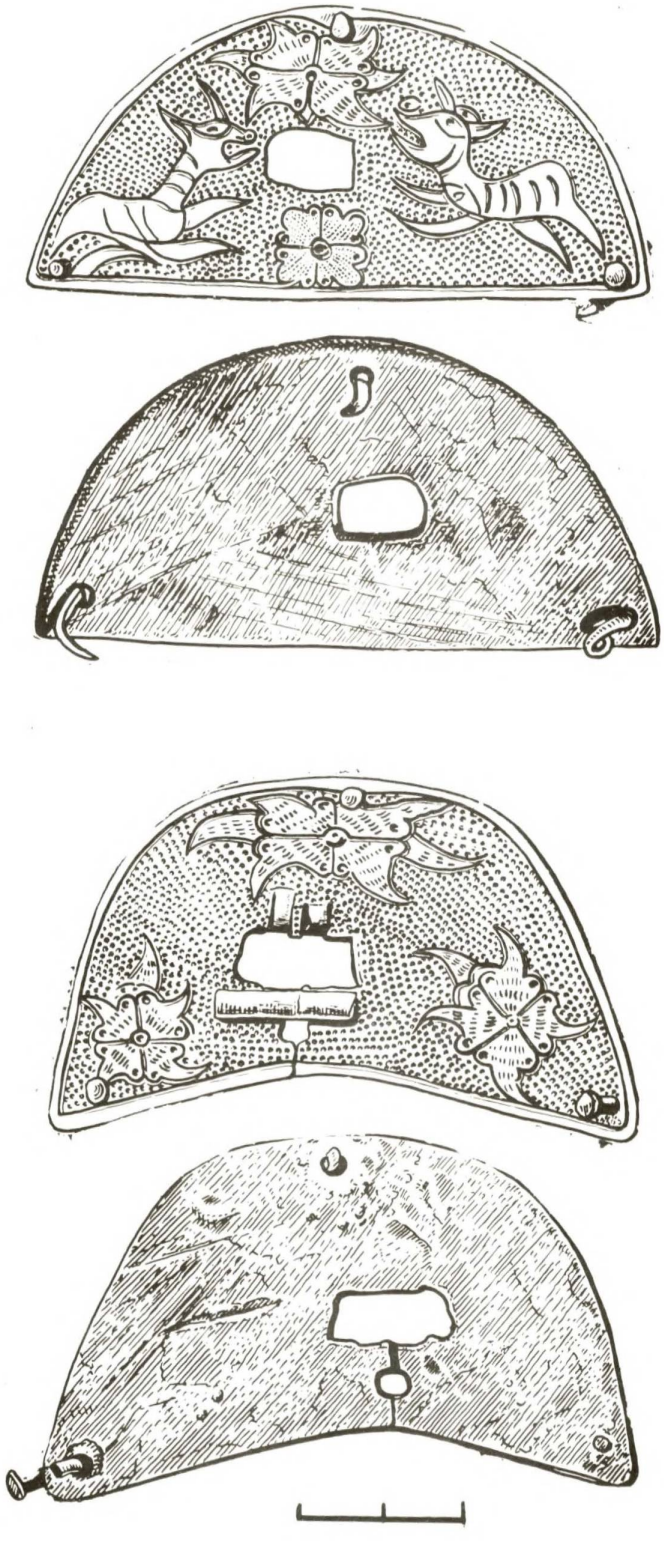

Illustration 110

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Illustration 111

Illustration 112

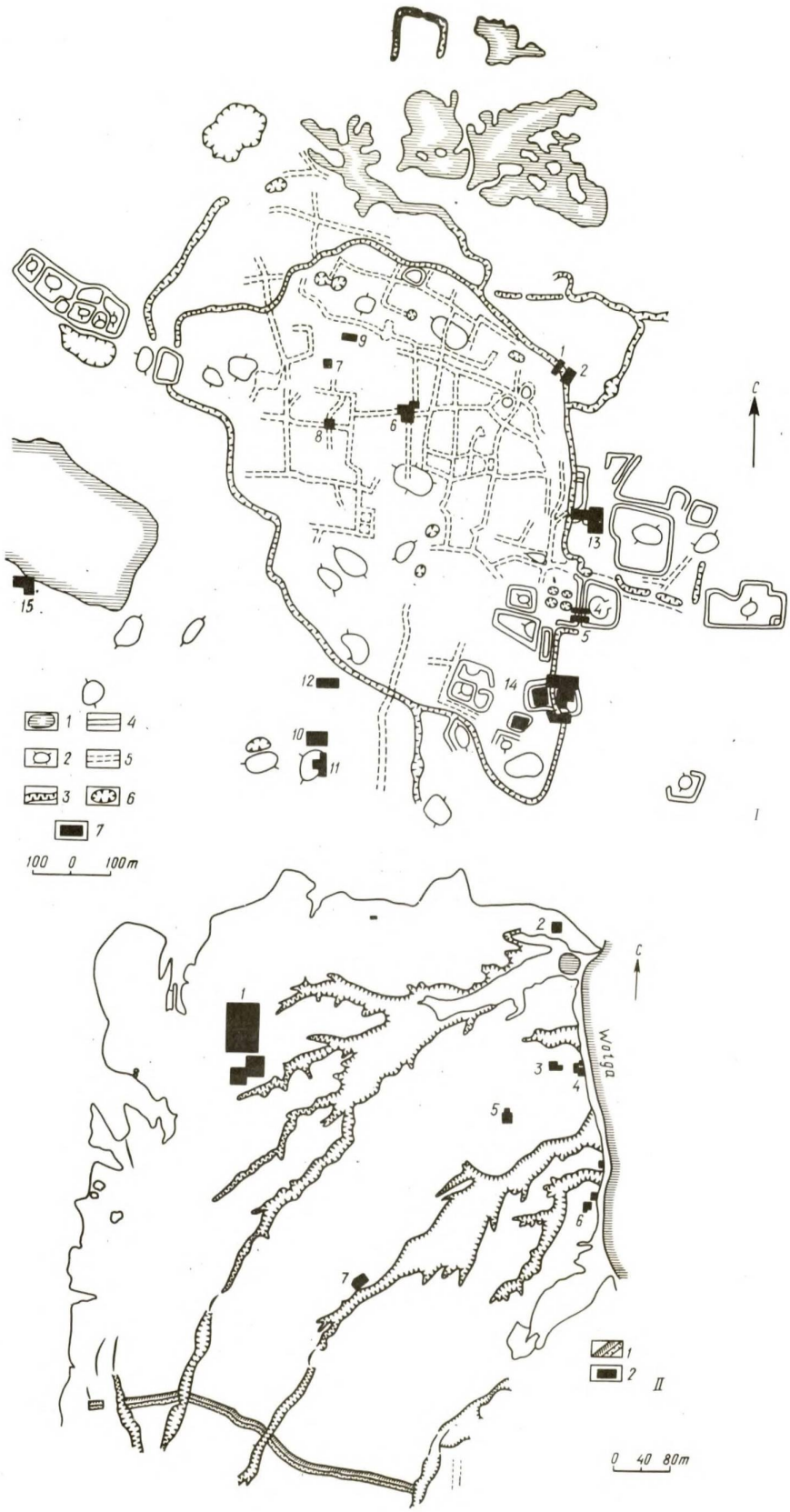

Illustration 113